SASKATCHEWAN RESEARCH COUNCIL 2004/2005 ANNUAL REPORT

Science Serving Saskatchewan

SRC

smart science solutions

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Saskatchewan Research Council Core Values ..... Inside Back Cover

SRC's Mission

SRC's mission is to help the people of Saskatchewan strengthen the economy with quality jobs and a secure environment. We do it through research, development, and the transfer of innovative scientific and technological solutions, applications and services.

SRC's Vision

SRC will be an internationally recognized leader in the development and implementation of relevant science and technology. We are committed to use this strength to enable our customers to thrive in the world economy, and to benefit Saskatchewan.

SRC's Purpose

SRC creates wealth through the responsible application of science and technology to assist Saskatchewan industry to be globally competitive.

We create wealth through

i) increasing production (of goods and services)
ii) adding value (to goods and services)
iii) improving productivity
iv) creating and commercializing new products and services

The Research Council Act

Section 21 (2) directs that:
Every report shall be laid before the Legislative Assembly in accordance with *The Tabling of Documents Act, 1991.*

105-065B1

Letter of Transmittal

June, 2005

Letter of Transmittal

To the Honourable Lynda Haverstock
Lieutenant Governor of Saskatchewan

May it please your Honour:

The undersigned presents herewith, for your consideration, the report of the Saskatchewan Research Council for the year ended March 31, 2005.

Respectfully submitted,

Eric Cline
Minister Responsible for SRC

Message from the Chair

On behalf of the Board of Directors of the Saskatchewan Research Council, I am delighted to wish everyone in Saskatchewan a wonderful Centennial year. I am proud to say that SRC has been contributing to the development of this province for more than half of its 100-year history.

It was 58 years ago, in 1947, that then-Premier Tommy Douglas announced the formation of SRC. Douglas was a great visionary, but I wonder if he could have imagined the full extent of the contribution SRC would make to the growth and diversification of Saskatchewan.

Creating SRC typified the progressive spirit of Saskatchewan at the time. Although still an agrarian society in 1947, the province was beginning to diversify and new activities were underway in resource development, the arts, and health care. Opportunities to create a better way of life through science and technology were emerging and the provincial government had the foresight to launch an initiative that would ultimately lead to a strong applied research, development, and demonstration capacity in Saskatchewan.

At first, SRC's activities were confined to grants for specific research at the University of Saskatchewan. In the mid-1950s, there were only 3 employees, but demand for applied research and development began to build through the late 1950s and 1960s. By 1973, SRC had become more client-oriented and was earning more from its industrial contracts than provincial grants. SRC in 2005 has become industry and business-needs driven, has grown to about 270 employees, and is earning annual revenues of about $28 million.

Over its 58 years, SRC has played a key role in the diversification of Saskatchewan's economy in areas such as mineral exploration, enhanced oil recovery, groundwater mapping, pipe-flow technologies, chemical and geochemical analysis, and high tech innovation. One indication of our impressive output is the more than 5000 publications that our researchers have produced since 1947. An indication of the usefulness of the output is its translation into economic impact, quality jobs, and a secure environment. SRC's work, implemented by its customers and partners, is helping to maintain Saskatchewan as the best place in Canada to work and to live.

I am very pleased to see that everyone at SRC continues to demonstrate and apply dedication, excellence, creativity, and pioneering spirit to build the economy of this province. I would also like to take this opportunity to express my appreciation for the close working relationships we at SRC enjoy with our partners and clients. We wish all of them continued success as Saskatchewan moves forward into its second century.

Keith Hanson
Chair, Board of Directors

Message from the President

Our Centennial is a banner year for Saskatchewan and a record-breaking year that goes far beyond solid accomplishment for the Saskatchewan Research Council, our employees, partners, and clients. For 2004-05, the midpoint of our five-year strategic plan, we continue to be on target to achieve our corporate mission. We set new records for our own revenues, employment, and productivity. More importantly, we set new records in contributing to the growth of our provincial economy, to the creation and maintenance of quality jobs, and to improving quality of life in the province.

This year's annual report theme, Science Serving Saskatchewan, is intended to reflect our demonstrated ability to harness the power of new scientific discoveries and ideas and translate them into smart science solutions for our partners and clients. In order to help Saskatchewan clients to be globally competitive we have to ensure that our capacity and our capabilities are world-class. As a result, SRC's people, activities, and results can be found across Canada and around the globe. Indeed, our research, development and demonstration accomplishments have global implications that are putting Saskatchewan, and SRC, on a world stage.

Consider, for example, SRC's work in the area of alternative energy products. We scored another world first this year by modifying a truck engine to operate on a combination of hydrogen and gasoline. We are also developing intelligent control systems to make the on-board storage of hydrogen, and other transportation gases, safer. This is an important step toward the hydrogen economy of the future. Meanwhile, we are commercializing technology, already proven in the lab, to produce ethanol from forestry and agricultural waste. Saskatchewan has the potential to become a major source of ethanol for the North American transportation market, and we are developing environmentally responsible ways to make that happen.

Another particularly notable success is our explosive growth in services to support mineral exploration, which simultaneously serves a key segment of the

Saskatchewan economy and also a global industry. By the time our second secure diamond lab opens this summer, we will have more than tripled our output and our employee complement in this area alone will have grown to nearly one hundred people. At the same time as we are helping the diamond industry grow, we are working around the clock to service the increasing needs of uranium exploration companies.

Our rapid growth of nearly 50% over the past three years is the result of the creativity and hard work of SRC's team of about 270 **talented employees**. I am pleased to report that we have renewed our commitments to excellence in occupational health and safety, the training and development of our people, quality management, and business continuity. These commitments are critical as they help SRC to position itself to ensure that science continues to serve Saskatchewan in the future.

Creativity is increasingly recognized as a leading factor in economic development and SRC is a

Saskatchewan leader in innovation. Our GenServe and Bova-Can Laboratories, for example, are working together to apply the latest genetic technologies to wildlife conservation activities.

Maintaining a **focus on client** needs helps us understand and deliver quality results that our clients will value, and use. Our Energy Division, for example, and in partnership with the Petroleum Technology Research Centre (PTRC), designed and constructed an innovative three-dimensional high-pressure scale model. This will allow them to simulate field conditions as part of the development of enhanced oil recovery methods that will support sustained productivity for the oil industry with reduced environmental impact.

Such **partnerships**, with PTRC and many other organizations, are a key to our success at SRC. For example, our Mining and Minerals Business Unit is collaborating with the new Canadian Light Source facility to help our clients use cutting edge synchrotron technology to enhance exploration methods for minerals like diamonds and uranium.

Sustainable development means building our economy in ways that are sensitive to social and environmental responsibilities. This is why our Building Performance Business Unit is working with a First Nations company to build ready-to-move manufactured homes that exceed national requirements for energy efficiency and meet the needs of Northern communities. To cite just one more of many other examples: our Environment Division, together with Natural Resources Canada, is involved in a project to assess, map and quantify deforestation in Saskatchewan. Project information will contribute to agricultural, environmental and forest management decisions and climate change reporting requirements.

Our mission at SRC is to help the people of Saskatchewan improve their quality of life by strengthening the economy, creating quality jobs, and contributing to a secure environment. Some of our contributions to creating a secure environment, such as helping to mitigate and adapt to the effects of climate change, are highlighted elsewhere in this report. Working with over one thousand clients per year in Saskatchewan alone (about 1,800 in total) SRC has a big impact on the provincial economy. In the past year, our work contributed more than $270 million in direct economic impacts and contributed to the creation or maintaining of over two thousand jobs.

Although by no means an exhaustive statement of everything SRC has achieved over the past year, this *2004-05 Annual Report* highlights accomplishments in five focus areas that reflect strategic industrial sectors of the provincial economy.

I would like to offer my heartfelt thanks to all of SRC's Board of Directors, employees, partners, and clients for a wonderful year of accomplishment and for helping us to position ourselves and our province for the next century.

Laurier Schramm
President and Chief Executive Officer

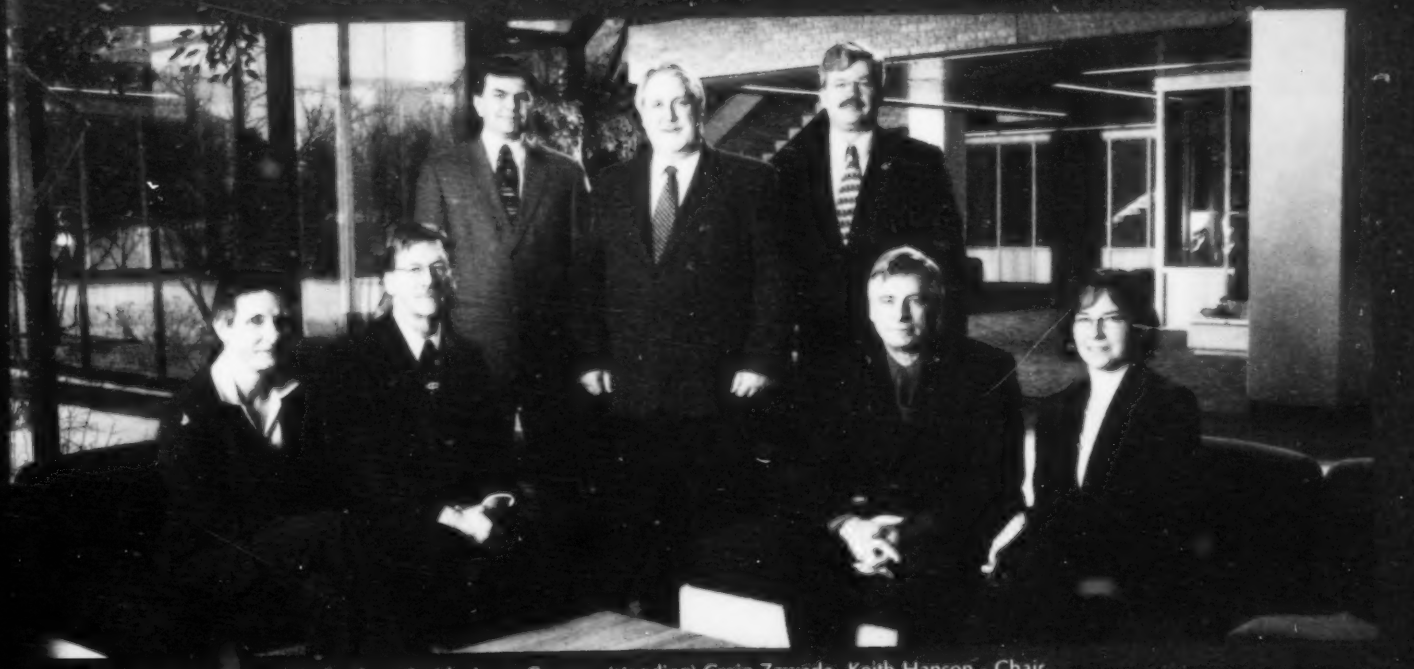
Board of Directors

Left to right: (seated) Peta Bonham-Smith, Larry Cooper, (standing) Craig Zawada, Keith Hanson - Chair, Laurier Schramm - Secretary-Treasurer, (seated) John Bennett, Patsy Gilchrist. Missing: Mike Mones - Vice-Chair, Doug Kellin, Amy Yeawab

SRC Corporate Leadership Committee

Back from left to right: Ken Owens, Director - Corporate Services; Gerry Brown, Vice-President - Agriculture and Biotechnology; Craig Murray, Vice-President - Manufacturing Value-Added Processing; Laurier Schramm, President and CEO; Michael Wrekes, Vice-President - Laboratory Services; Ranga Ranganathan, Director - Business Development.
Seated: Toby Arnold, Director - Human Resources; David Grier, Vice-President - Environment and Minerals; Crystal Smudy, Chief Financial Officer; Wanda Nyida, Director - Corporate Relations. Missing: Ernie Pappas, Vice-President - Energy.

Board of Directors



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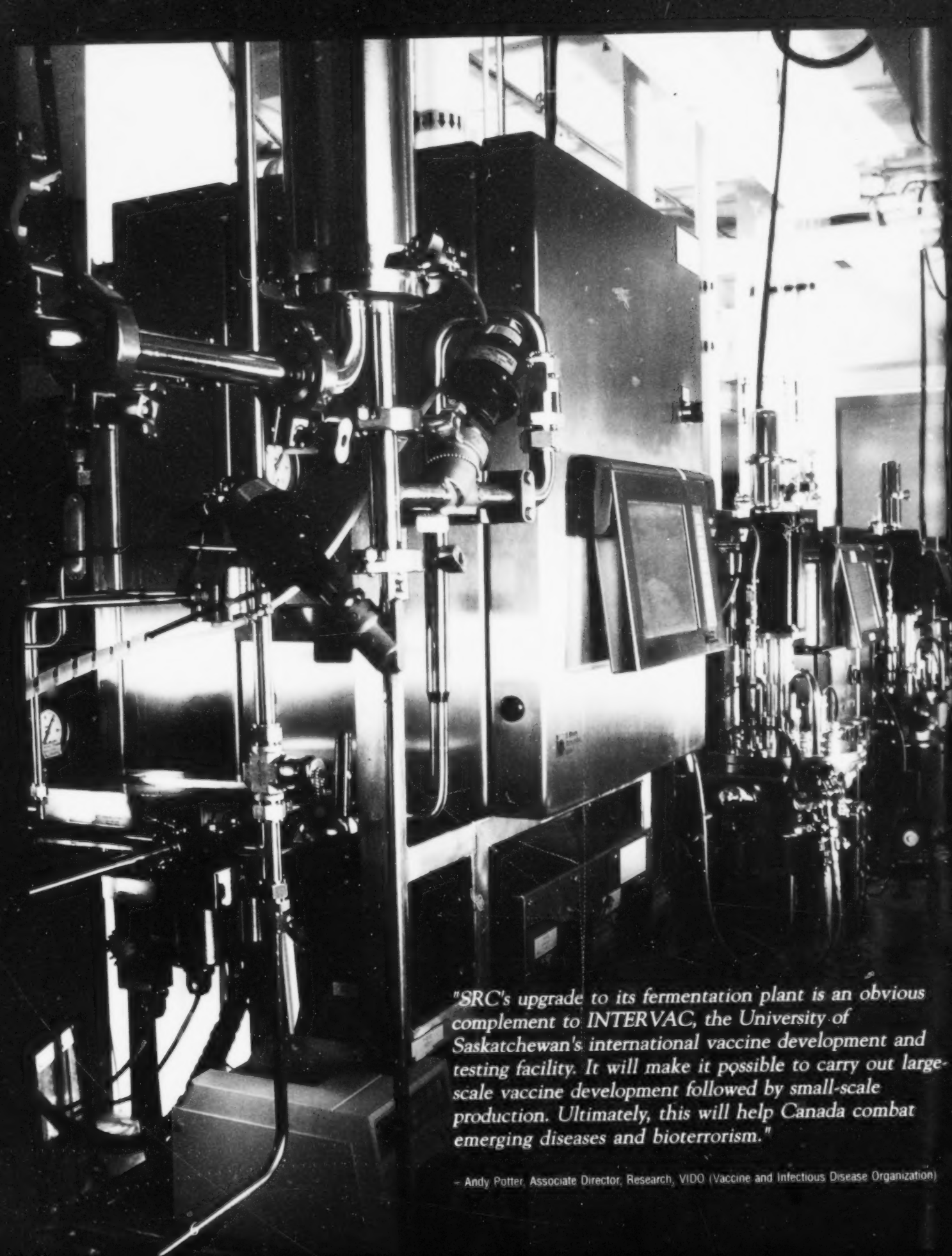
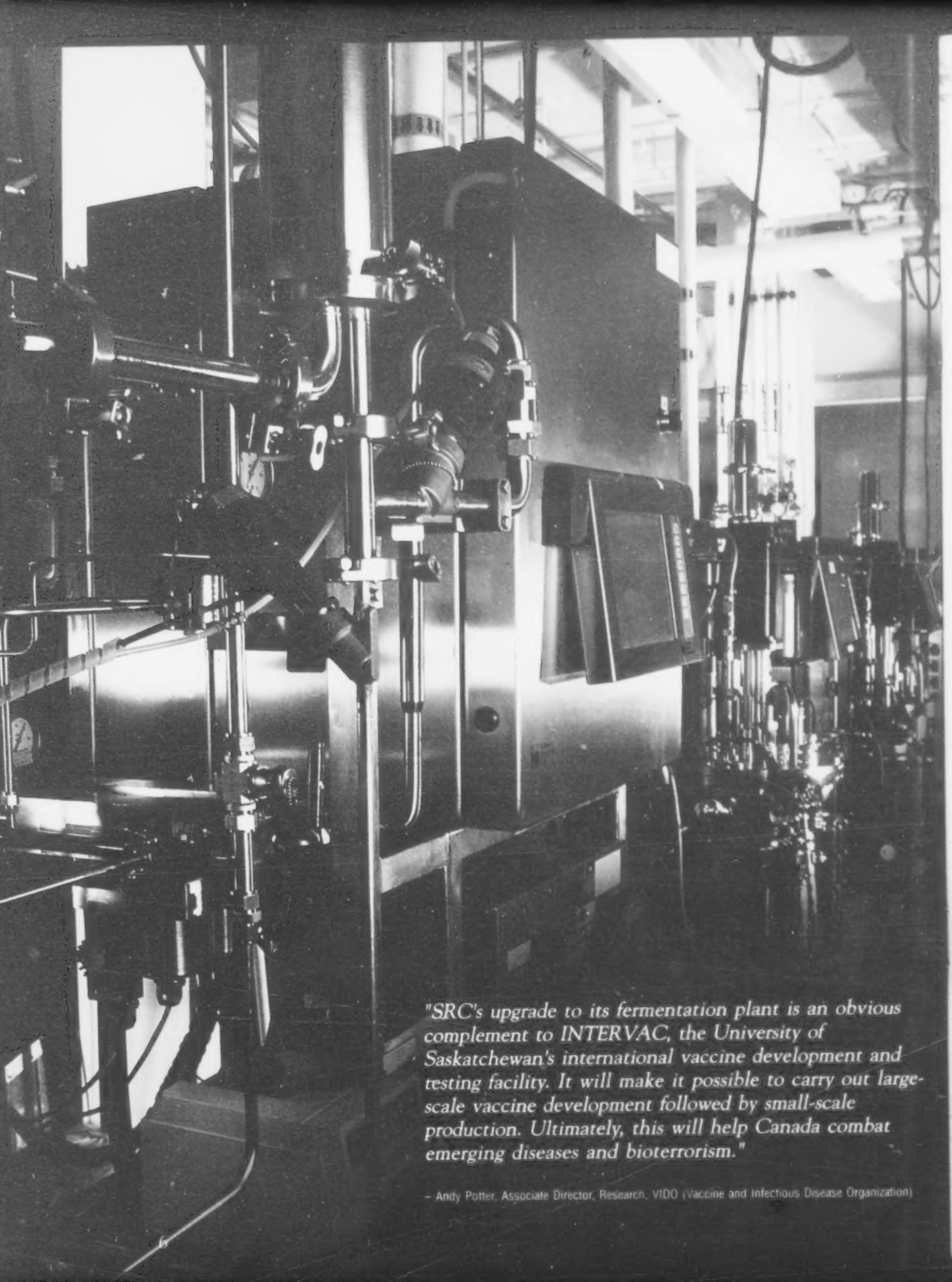


"SRC's upgrade to its fermentation plant is an obvious complement to INTERVAC, the University of Saskatchewan's international vaccine development and testing facility. It will make it possible to carry out large-scale vaccine development followed by small-scale production. Ultimately, this will help Canada combat emerging diseases and bioterrorism."

– Andy Potter, Associate Director, Research, VIDO (Vaccine and Infectious Disease Organization)



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Agriculture and Biotechnology

Fermentation Plant to Receive $2.9 Million Upgrade

SRC has been awarded $2.9 million to upgrade its fermentation plant in Saskatoon. Currently classed as a Good Laboratory Practice (GLP) and Biosafety Level 2 (BSL2) facility, the addition will add current Good Manufacturing Practice (cGMP) capability and Biosafety Level 3 (BSL3) containment.

The funds were awarded by the Canadian and Saskatchewan governments through the Western Economic Partnership Agreement (WEPA).

SRC's 4,300 square foot fermentation plant is an important component of Saskatchewan's biotechnology industry. The plant is contracted by industry and academic clients to develop, scale-up, optimize, process, test, and manufacture high-value, low-volume biological products.

The WEPA funds will be used to modify existing space within Innovation Place, adding equipment and capabilities that will meet BSL3 and cGMP standards.

Vaccine and therapeutic products for human and, in many jurisdictions, veterinary use must meet cGMP standards. These assure that only quality materials are used in production processes and that the systems used to manufacture products do nothing to detract from this quality.

BSL3 facilities are federally regulated and built to meet international biocontainment safety standards designed to protect workers, society and the environment. "As a BSL3 facility, we will be able to safely produce vaccines against infectious diseases like SARS," says Dr. Gerry Brown, SRC's Vice-President of Agriculture and Biotechnology. Infectious agents are classified internationally on a scale of one to four. Level 3 diseases that could be studied in the new facility include SARS, avian flu and West Nile virus.

SRC's upgrade will complement the new International Vaccine Centre (InterVac) being built at the University of Saskatchewan. When completed in 2009, InterVac will be one of the largest high-containment (BSL3) vaccine research laboratories in North America. SRC's fermentation plant will scale-up candidate products developed at VIDO (Vaccine and Infectious Disease Organization) and elsewhere for animal trials at InterVac and, when appropriate, manufacture material for clinical trials and final product vaccines.

"Our fermentation plant will now be able to safely produce live viruses and then inactivate them to produce vaccines for animal and human diseases," comments Brown. "This will help protect human and animal health, build Saskatchewan's research and development capacity in these areas, support the local world-class medical and veterinary-medical community, and take R&D from the test bench to commercial production right here in Saskatchewan."

Genetic Tests Expand at Bova-Can

A number of new genetic tests and technologies were introduced in 2004-2005 by Bova-Can Laboratories, a joint venture of SRC and Bova-Can Parentage Testing Inc.

Two new diagnostic tests were offered to Dexter cattle breeders by Bova-Can, which is working with the Canadian Dexter Cattle Association and two American Dexter associations to provide the services.

The first is a specific DNA-based test for coat color determination. The Dexter breed includes both black and red types. For an animal to be labeled red, two genes that are genetic determinants for coat color in Dexter cattle have to be identified. The red type also carries a gene that may cause the animal to be a dun colour, rather than a true red. To maintain the integrity of the phenotype, all animals will now be geno-typed for colour to maintain the true colour of the breed.

Also for Dexter cattle breeders, Bova-Can is DNA-testing breeding animals for chrondrodysplasia, commonly know as "bull dog calf." This lethal genetic defect is caused by a single mutation in the Aggrecan gene. Affected calves have deformed legs and spinal cord, along with a cleft palate. DNA typing for chrondrodysplasia helps Dexter breeders better manage their selection program to reduce the occurrence of the defect.

Bova-Can Laboratories is considering adding a new DNA typing technology, which is less expensive than current services that are based on Polymerase Chain Reaction - Restriction Fragment Length Polymorphism (PCR-RFLP) and microsatellites. Single Nucleotide Polymorphisms (SNPs), promise to yield the same genetic information for diagnostics and pedigree verification but are better - suited for full automation and are less labour intensive. It is expected that a panel of 20 SNPs will be sufficient for animal identification and traceablility. The goal is to develop SNP panels that will allow for individual identification and disease typing status in a single automated approach.

For the dairy industry, Bova-Can continues its working relationship with the Semex Alliance and its marker assisted selection programs. With Semex, Bova-Can is also considering using SNP marker technology to complement the current panel of microsatellite-based markers.

Bova-Can's expanding services and technologies provide livestock producers with value-added information to assist their breeding programs.

Selection for Mite Resistance in Honeybees

The Saskatchewan Beekeepers Association (SBA) launched an innovative research project using natural selection to identify mite resistant honeybees. The project placed a number of honeybee colonies in an isolated area in Saskatchewan, designated "Saskatraz". These colonies have been infected with both Varroa and Tracheal mites and are monitored for their tolerance or resistance to the parasites. Saskatraz is a play on Alcatraz, the famous island prison. Isolating the mites prevents them from infecting other Saskatchewan bees while allowing research to proceed.

Parasitic mites are devastating domestic honeybees throughout the world. Since the mites have developed resistance to licensed chemical controls, an alternative approach is to identify bee stock that is less susceptible to mite infections. The project aims to help the Saskatchewan industry avoid chemical controls that can potentially contaminate honey.

The SBA crossed Canadian lines with selected Russian bee stock, which was shown by the USDA to have levels of resistance to Varroa and Tracheal mites. Over the next five years, the hives in the Saskatraz project will be exposed to these mites and monitored for resistance, bee population growth, honey production, and successful wintering. Queens from the most productive hives with the best mite resistance will be raised and made available to SBA members.

SRC's GenServe Laboratories worked closely with the SBA to find genetic markers to help researchers identify the presence of mite resistance in breeding stock.

"Early indications are that the project shows promise in successfully transferring mite resistance to the Saskatchewan bees," said Albert Robertson, principal investigator in the study from Saskatchewan Beekeepers Association. "Breeding stock from Saskatraz will be available to SBA members starting this year, allowing the Saskatchewan bee industry to sustain its productivity in the future."

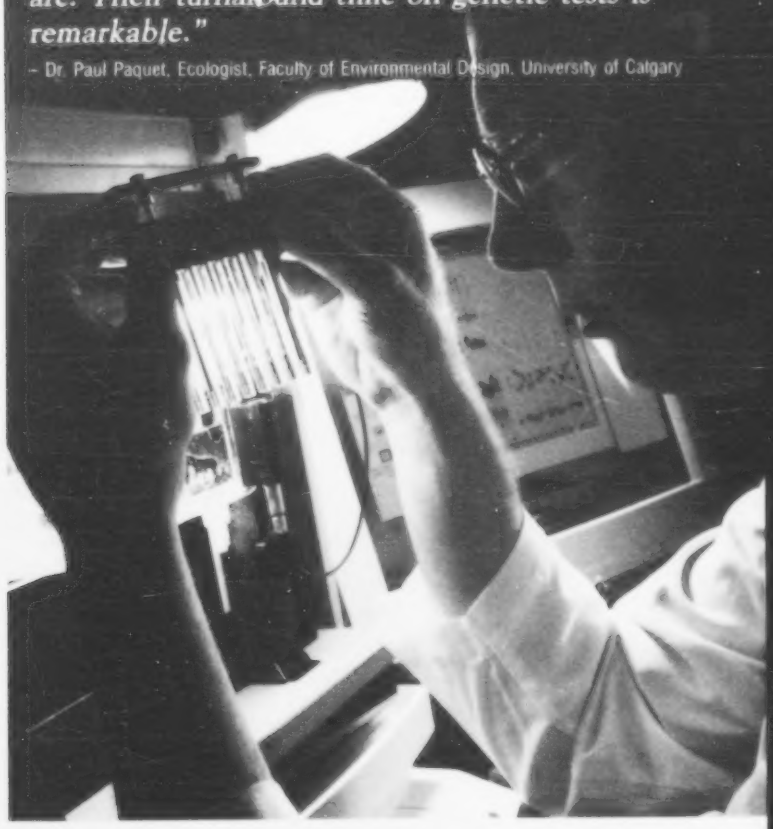
Genetic Support for Wildlife Management

Decreases in wildlife habitat sometimes necessitate increased human interventions in wildlife populations, including the study of wildlife genetics. Two SRC labs, GenServe and Bova-Can Laboratories, are collaborating with agencies such as the Canadian Wildlife Service (CWS) to provide a genetic component to management activities.

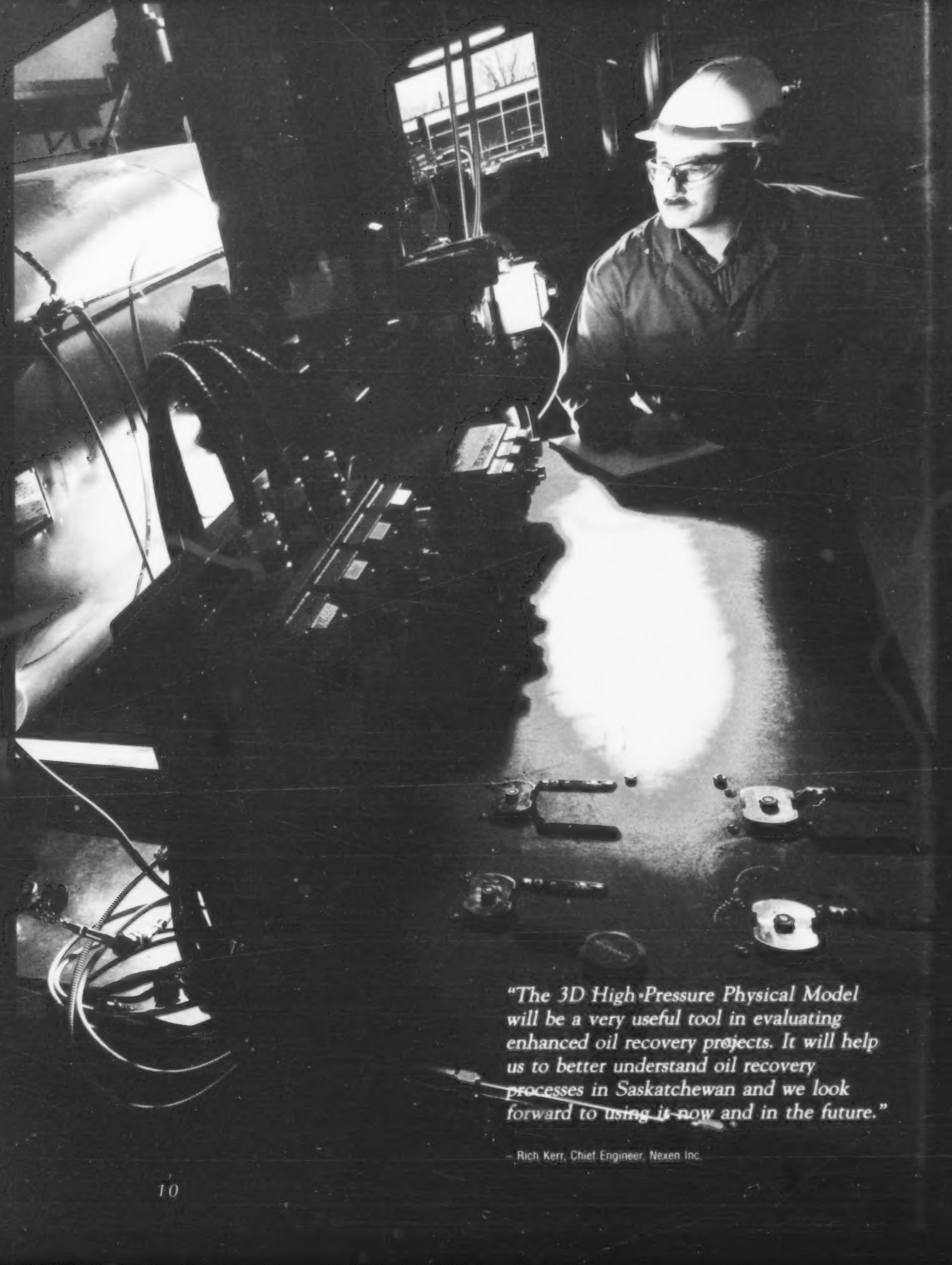
The genetics of two elk herds in Manitoba are being studied to determine whether the herds are completely isolated or if the two herds are sometimes in contact. If the herds are isolated, they may have unique genetic adaptations to their local environment that could be lost if they were to intermingle as a result of management programs. For example, if animals were culled from one herd due to disease and replaced with animals from the other herd, the herd's genetic adaptability might be compromised. The CWS is currently assessing the genetics of animals from both herds with profile results provided by SRC.

"Genetic analysis, which is a relatively new tool for ecologists, is giving us important insights into wildlife populations. What is striking in our relationship with the SRC labs is how efficient they are. Their turnaround time on genetic tests is remarkable."

– Dr. Paul Paquet, Ecologist, Faculty of Environmental Design, University of Calgary

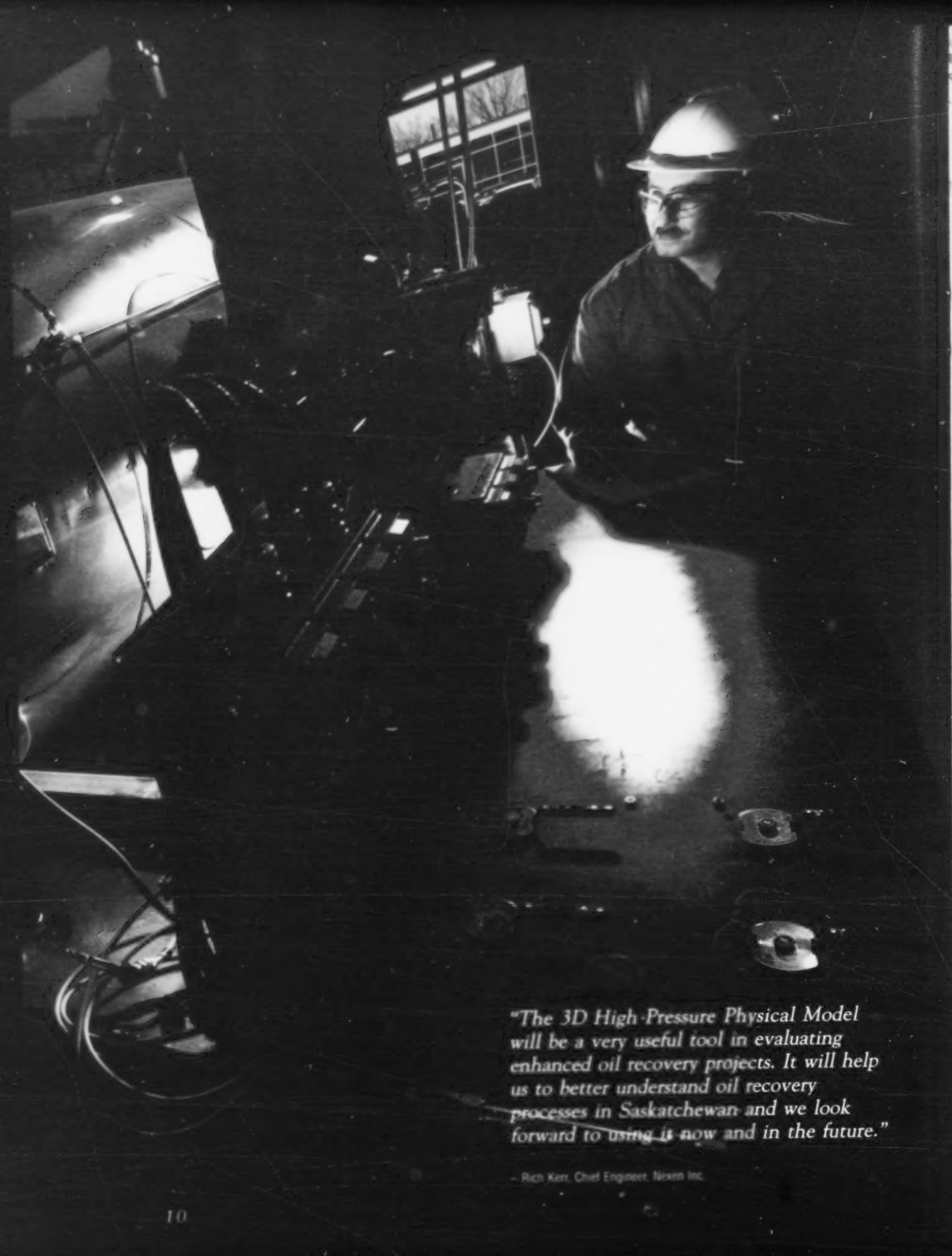


Bova-Can and GenServe are also continuing their involvement in projects to study wolf population genetics by training visiting graduate students interested in wolf populations in central western Canada and on the British Columbia coast. Genetic data and population genetics analyses will yield relevant information about genetic diversity in different wolf populations, help to estimate movement and migration between various packs, and ultimately contribute to better management of the populations.



"The 3D High-Pressure Physical Model will be a very useful tool in evaluating enhanced oil recovery projects. It will help us to better understand oil recovery processes in Saskatchewan and we look forward to using it now and in the future."

– Rich Kerr, Chief Engineer, Nexen Inc.



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Energy

3D Scale Model to Assist Heavy Oil Production

Saskatchewan's heavy oil production is forecast to decline in the future unless new technologies are developed to recover oil that cannot be extracted using conventional methods. Solvent vapour extraction is considered the most promising technology and several pilot projects using this technology are currently underway.

The Petroleum Technology Research Centre (PTRC) is establishing a Joint Implementation of Vapour Extraction (JIVE) program that uses operating field pilot data in collaboration with laboratory investigation and numerical simulation to improve the process. The program will provide technology transfer to program participants, enabling rapid and widespread application of the technology.

SRC is a founding partner in PTRC and a collaborator in the JIVE program.

With support through PTRC from the Western Economic Partnership Agreement (WEPA), SRC is designing and building a three-dimensional high-pressure scaled-physical model. This is a critical piece of equipment for the collaborative program. The model will be used to mimic an operating field project.

The model will be used to simulate actual physical processes using a large pressure vessel to contain actual reservoir pressures, fluids, rock, and solvents, but scaled-down in size and processing time. Instruments connected to the model measure pressure and temperature, which are used to monitor "real time" operations and make necessary operational changes. The collected data are further analyzed and used to scale-up the process results.

With data such as injection/production rates, changes in fluid properties, and solvent volumes required, this work can be used to predict field performance and provide the outputs required for both technical and financial evaluations of the process and its applicability to different oilfields. For each prospective field application, this work will also provide guidance on the best field operating strategies.

This three-dimensional high-pressure scaled-physical model is the first of its kind in Canada and the applied research and development that will be conducted using this model is expected to facilitate rapid development and commercial application of the solvent vapour extraction process in Saskatchewan's and Alberta's heavy oil reservoirs.

Economy and Environment Drive Enhanced Oil Recovery

Sequestering greenhouse gases and increasing oil production are two compelling reasons to pursue the use of CO_2 injection for Enhanced Oil Recovery (EOR). CO_2 injection is already being used successfully in the Weyburn reservoir in southeast Saskatchewan in a $1.3 billion venture that is expected to recover an incremental 130 million barrels of oil over 25 years. In 2004-05, SRC collaborated with the Petroleum Technology Research Centre (PTRC) on several projects to advance this technology for different applications.

One project is designed to optimize a gas "huff-and-puff" process for medium-heavy oil recovery. The process, which has proven successful in the laboratory for light oil, requires the addition of a foam to the gas stream to free the oil from reservoir rock. Ultimately, it may help recover 2 million barrels of medium oil that remain untapped by conventional primary and secondary technologies.

Another project aims at accelerating the transfer of immiscible CO_2/flue gas technology to field operators to increase production of heavy oil. The project tested the effect of various chemicals to improve productivity.

SRC was also involved in a study on Assisted Oil-Bank Formation technology using surfactants and other chemicals. This technology was shown to be effective in recovering medium oils.

In another area of EOR research, SRC was contracted by Nexen to provide laboratory services on some of its EOR pilot projects in the field and in the laboratory. This involved the establishment of a field lab at one of the pilot sites. The lab analyzed liquid and gas samples to determine the composition and physical properties of the resulting EOR oil and produced fluids. SRC also trained Nexen personnel in sample collection and analysis techniques.

In Saskatchewan, most of the oil resource is left in the ground after an oil field is developed and depleted. EOR techniques such as CO_2 and solvent injection are being studied to find ways to extract more of the total oil resource than is possible with conventional technologies. This will result in significant additional economic activity for Saskatchewan with lower overall environmental impacts.

Industrial Strength Innovations from Pipe Flow Technology Centre

In 2004, SRC's Pipe Flow Technology Centre and the Petroleum Technology Research Centre embarked on a three-year, multi-client-funded project to study water assisted pipeline transport of bitumen, heavy oils and co-produced sand. The findings will be applied to natural-froth lubricity in pipelines for oil sand bitumen transport and continuous water-assisted flow lines for heavy crude oil transport.

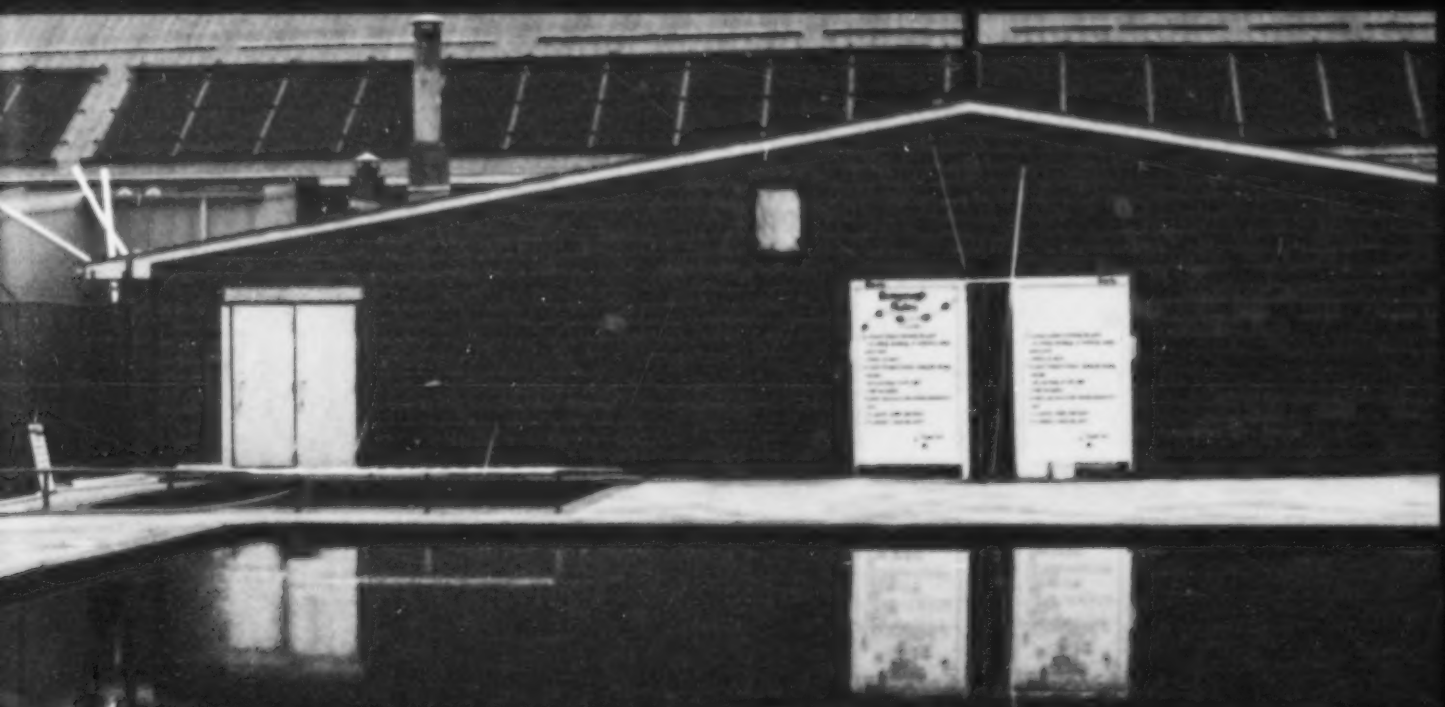
Successful implementation of this technology will result in a major reduction in pipeline pressure losses, which translates into lower pipeline construction and fuel costs and decreased greenhouse gas emissions.

A properly designed water assisted flow system has inherent advantages over rival technologies such as hot oil and diluent pipelines, including greater safety and reduced impacts from pipeline leaks. Additionally, the development of viable surface flowline technology will reduce the heavy truck traffic that is negatively affecting the quality of life in heavy oil producing areas. In the future, the technology could also help to improve the performance of horizontal wells, eliminating costly well cleanouts and the need for expensive sand exclusion procedures.

Improved pipe flow technology contributes to the successful and responsible management of natural resources through improved pipeline design, decreased operating costs and reduced environmental impact.

Energy Advice Pays Off for Saskatchewan Municipalities

With energy prices on the rise, Saskatchewan municipalities are looking for innovative ways to improve energy efficiency and save money. Saskatchewan's Office of Energy Conservation (OEC), operated for the provincial government by SRC, is advising municipalities on the most cost-effective ways to cut energy bills. The results are impressive.



"Working on the solar swimming pool project with the Office of Energy Conservation has been awesome. They walked us through the steps setting up that project and then went beyond that to advise us on a number of other energy conservation measures for our community."

– Holly Dahl, Administrator, Rural Municipality of Bengough

"There are a number of ways municipalities can save energy, reduce greenhouse gas emissions, and cut costs, often while enhancing services," says Terry White, OEC's Manager of Municipal Program Development. "The Saskatchewan Association of Rural Municipalities (SARM), for example, upgraded 170 light fixtures in its office and is now saving $1300 per year on its electrical bill. Now many other municipal offices are switching to efficient lighting."

OEC is collaborating with SARM and the Saskatchewan Urban Municipalities Association to provide energy advice for Saskatchewan's 788 municipalities. Saskatchewan Property Management is supporting the initiative by allowing municipalities to access the reduced equipment prices negotiated for government purchases.

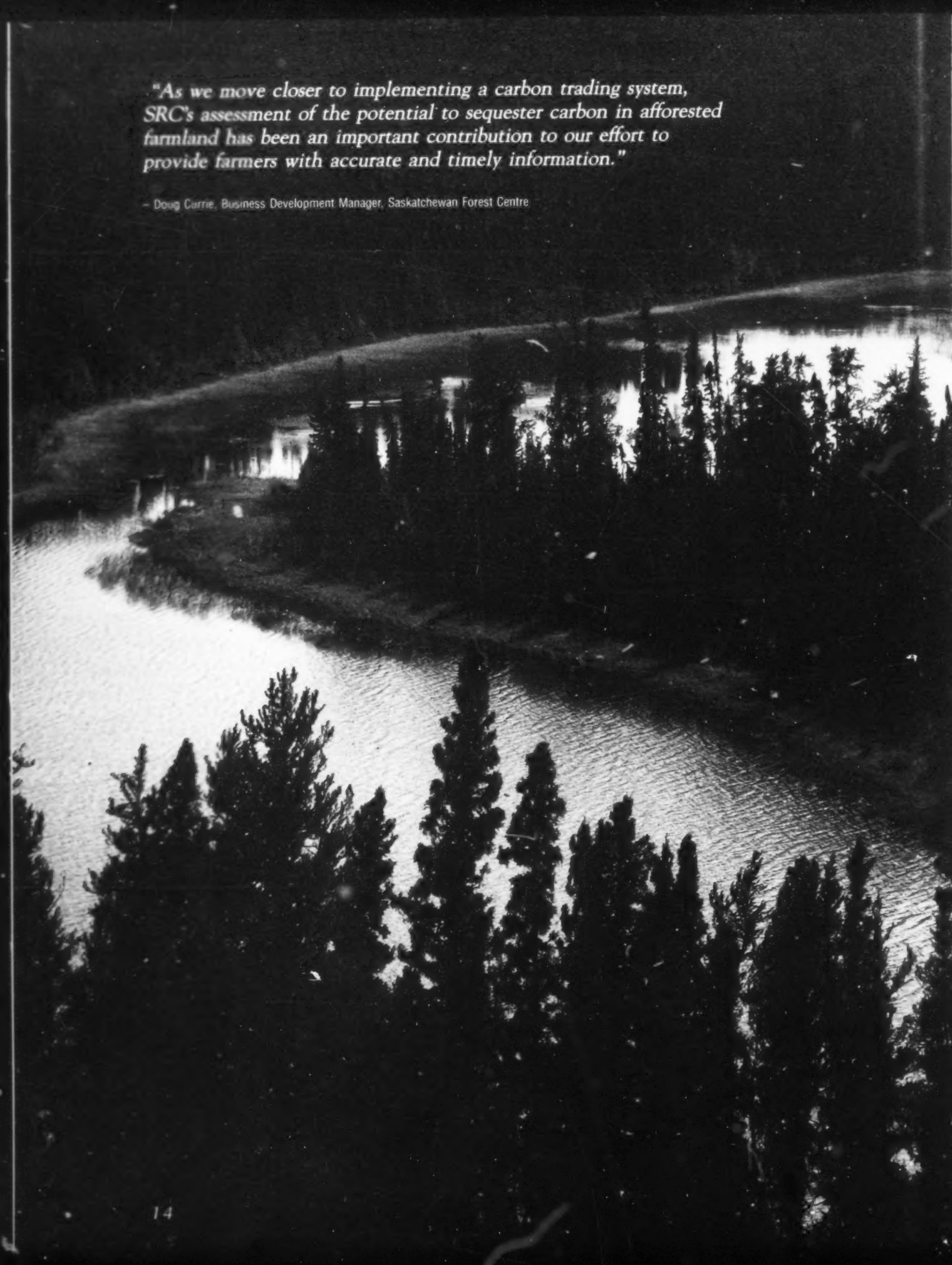
Town arenas also offer opportunities for significant energy savings. For example, replacing older mercury vapour lights with metal halide lights can cut energy use by 40% while providing better lighting. After OEC introduced the Town of Aberdeen to Natural Resources Canada's CANMET Energy Technology Centre – Varennes (CETC-V) program, the town adopted an innovative design for its new arena that is expected to cut energy costs in half compared to a standard design. The integrated design captures waste heat from the ice-making compressors for use in the warm areas of the building.

Acting on advice from OEC, 21 municipalities are exploring solar heating for outdoor swimming pools. At current natural gas prices, solar pool heating can pay for itself with four years of energy savings. A Saskatchewan company, Kelln Solar of Lumsden, is providing the solar technology.

By promoting improved technology and efficient design practices, OEC is playing a key role in delivering energy cost savings to Saskatchewan ratepayers while reducing greenhouse gas emissions.

"As we move closer to implementing a carbon trading system, SRC's assessment of the potential to sequester carbon in afforested farmland has been an important contribution to our effort to provide farmers with accurate and timely information."

– Doug Currie, Business Development Manager, Saskatchewan Forest Centre



Environment

Carbon Budget Model Tested in Boreal Forest

A carbon budget model for Canada's boreal forest is being tested in Saskatchewan by SRC in collaboration with the Saskatchewan Forest Centre and Prince Albert Model Forest.

"Carbon budgets attempt to account for the total amount of carbon that is released from, or stored in, forests," says Dr. Mark Johnston, Manager of SRC's Ecosystems Business Unit. "This information is of critical importance in measuring Canada's net contribution to climate change."

Since forestry practices affect carbon sources and sinks, forest managers require a modeling tool to assess impacts of various management activities on the carbon budget of their land base. As the tool is also the primary means for global reporting, it must be compliant with international carbon accounting rules. It should also be sufficiently flexible to address management questions important to forest managers at the local level.

"We are working with provincial partners and the Canadian Forest Service carbon accounting team to test the accounting tool at the regional level," says Johnston. "When fully tested, the operational model will be made available without charge. This will enable it to become the standard way of calculating carbon budgets which will ensure a consistent methodology based on sound science."

The technology transfer program will assist foresters in assessing impacts of their management practices on carbon stocks and changes. This will help increase the use of forestry activities in Canada's greenhouse gas emission reduction strategies.

Climate Change Impacts Ecosystems, Health and Economy

When the Kyoto Protocol on climate change came into force in 2005, demand for research on measures to adapt to and mitigate climate change intensified. One critical concern is the impact that a warmer, drier climate is likely to have on Saskatchewan's ecosystems, economy and public health.

According to most global climate models, periodic droughts are expected to occur more frequently in the future. In a series of projects, SRC scientists and several partner agencies compared the causes and characteristics of the record droughts of 2001 and 2002 to previous droughts and considered their implications for future climate change scenarios. The results will help the agriculture industry, government and municipalities improve adaptation strategies for future droughts.

Another SRC project is examining the relationships between wildfire conditions and respiratory ailments in northern Saskatchewan.

According to Dr. Elaine Wheaton, Manager of SRC's Climatology Business Unit, "The project linked climate with fire, and fire with respiratory health, in a model that estimates possible cardio-respiratory health risks in the study area under several climate change conditions. The final phase of the project will involve discussions of the outcomes with Northern stakeholders and the development of adaptive options."

In the prairie region, SRC Principal Scientist, Dr. Jeff Thorpe, is looking at the possible effects of climate change on different types of grassland ecosystems.

"We developed a model to predict the transition from one kind of grassland to another. If grassland types change, from the mixed prairie typical of southern Saskatchewan to the short grass prairie typical further south in the Great Plains, the value for livestock grazing will diminish. We can see this kind of change happening in 50 years."

This research is also useful in developing policy for provincial parks. "Our parks are meant to be representative of different ecosystems," says Thorpe. "What happens when grassland ecosystems migrate north due to climate change? Our research contributes to the development of policy that can help the park system adapt to this kind of change."

SRC's multifaceted climate change research is designed to predict change and help planners in government and industry begin the process of shaping adaptive strategies.

Landfill Practices and Environmental Health in First Nations Communities

SRC was involved in a multi-disciplinary, multi-partner research project in 2004-05 that examined the environmental health impacts of landfill sites at several Saskatchewan First Nations communities.

The project, which responded to community concerns that contaminants from landfills may affect drinking water, was initiated by the Saskatoon Tribal Council (STC) Health and Family Services. Researchers from SRC collaborated with the STC Health and Family Services, the University of Saskatchewan (U of S), First Nations University of Canada (FNUC), and four First Nations on the project. Funding came from the Assembly of First Nations/Health Canada Environmental Contaminants Program, Indian and Northern Affairs Canada, and the Indigenous Peoples Health Research Centre.

The project adhered to principles of Ownership, Control, Access and Possession (OCAP) that allow First Nations communities to control research information. STC Health and Family Services anticipates that its efforts to develop links between academic researchers and local communities will create a model for future OCAP projects.

Mistawasis, Muskeg Lake, Whitecap Dakota and Muskoday First Nations were the community partners. Currently, only two of the communities have clay-capped, decommissioned landfills. In the other communities, disposal of solid waste is not regulated and in some cases, open backyard pits are in use or landfills are located near water supplies.

SRC's role in this project included the co-ordination of soil and water sample collection from selected disposal sites to identify whether hazardous chemicals were present. Initial test results did not identify anything of immediate concern to residents. Further testing and analyses will consider both the long-term health risks and microbial contamination.

Local students and elders assisted the researchers in both data collection and the dissemination of results. One project goal was to encourage First Nations students to pursue careers in environmental and health sciences. Students from each community participated in hands-on workshops at SRC, U of S, and FNUC to introduce them to environmental health issues and methods of environmental research. Elders from the communities took a leading role in the workshop to emphasize the importance of traditional knowledge in environmental science.

The project played an important role in providing First Nations communities with information on the environmental impacts of landfills so that safe waste disposal policies and water treatment programs can be developed.

Remote Sensing Yields Ecological and Economic Information

SRC's Remote Sensing and Spatial Information Business Unit, together with Natural Resources Canada is involved in a three-year pilot project to assess, map and quantify deforestation in the boreal transition ecoregion along Saskatchewan's forest fringe, where forest is rapidly disappearing. Project information will contribute to agricultural, environmental and forest management decisions and climate change reporting requirements.

The project advanced the methodology for efficient, accurate and cost-effective mapping, contributing technological expertise and infrastructure that can be used in other applications within and outside of the province.

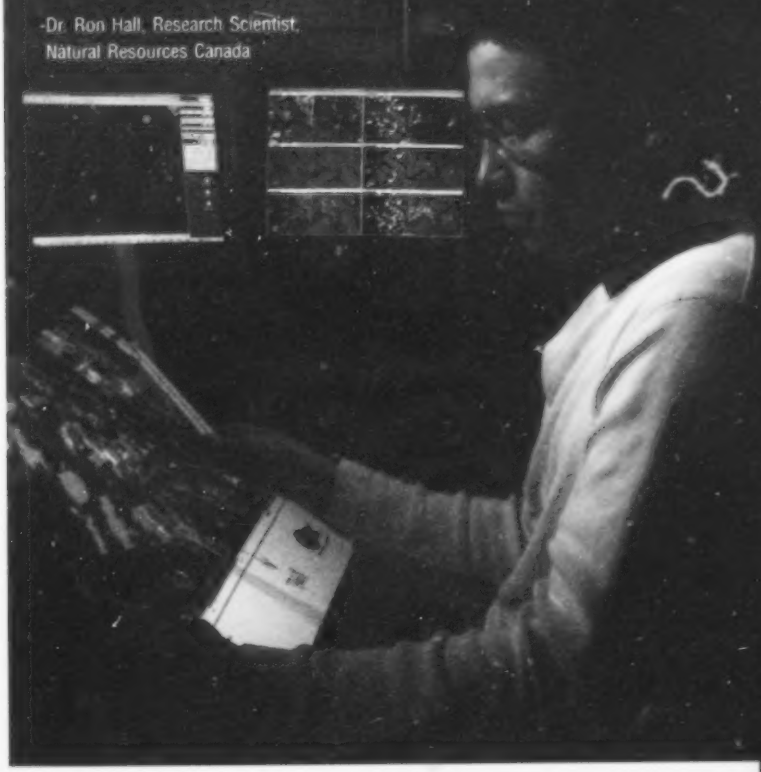
Remote sensing, image analysis, and Geographic Information Systems (GIS) offer decision-making tools for a variety of industries. SRC has been involved, for example, in the development of image analysis and techniques for the detection of geologic formations called lineaments in support of oil and gas exploration. Lineaments can often provide indications of economic deposits.

The benefits for Saskatchewan go beyond the oil and gas industry. The technology builds increased capacity to provide innovative predictive discovery and exploration tools and services to government and a variety of industries, including forestry and mining.

Saskatchewan Research Council, Saskatchewan Environment, Saskatchewan Forest Centre and the Natural Resources Canada - Canadian Forest Service, Prince Albert Grand Council and the Meadow Lake Tribal Council have been working collaboratively to develop the North Digital Land Cover classification, a provincial land cover map of Saskatchewan from the Boreal Transition zone to the 60th parallel.

"The Canadian Forest Service in partnership with the Canadian Space Agency is mapping the land cover of the forested areas of Canada at 30m resolution using satellite remote sensing data. It's a project that is impossible to undertake without partners and collaborators. Building on the Southern digital land cover that was previously undertaken by SRC, they were the obvious partners to work with us to complete the mapping of land cover in Saskatchewan. It has been a positive and successful partnership."

-Dr. Ron Hall, Research Scientist, Natural Resources Canada



The intent of this project is to build partnerships, increase provincial capacity, and to provide a means of sharing resources for the development of a more integrated land cover mapping program. This achievement will improve provincial capability to conduct land-based forest inventories, and increase the knowledge of land cover composition and its spatial distribution over the landscape.

The proposed data base will provide an essential tool for planning, modeling, monitoring the health and sustainability of Saskatchewan's forest and assist Canada in meeting its Kyoto and other carbon reporting objectives.

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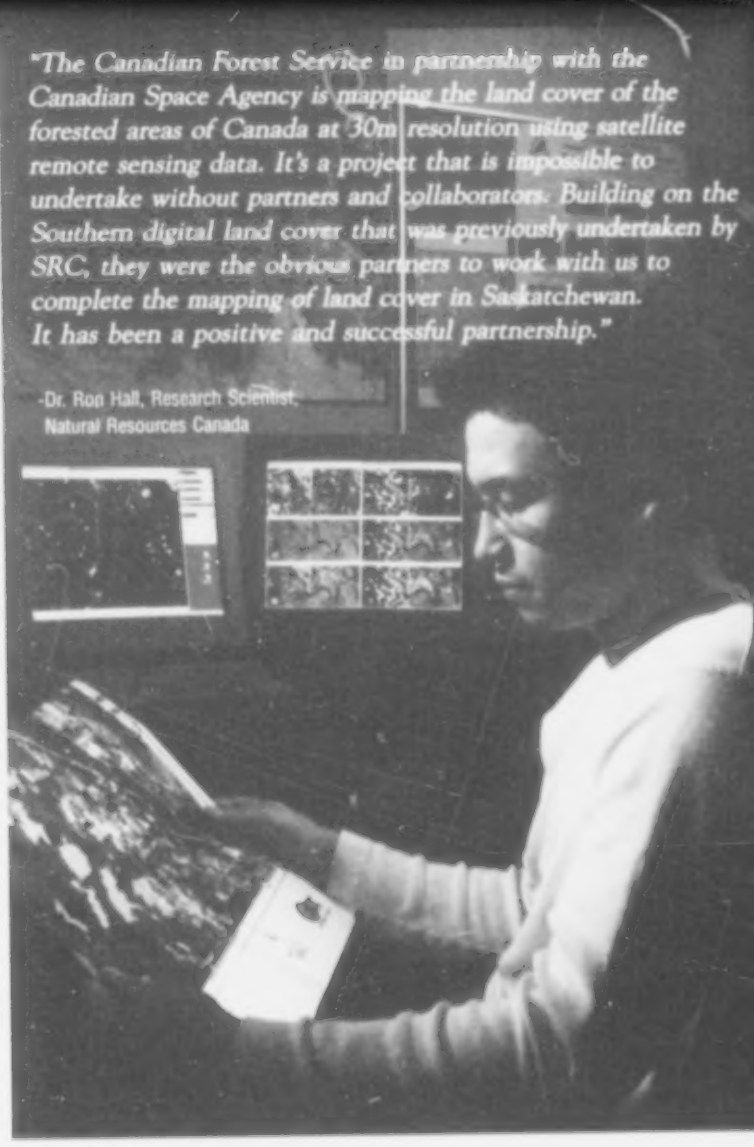
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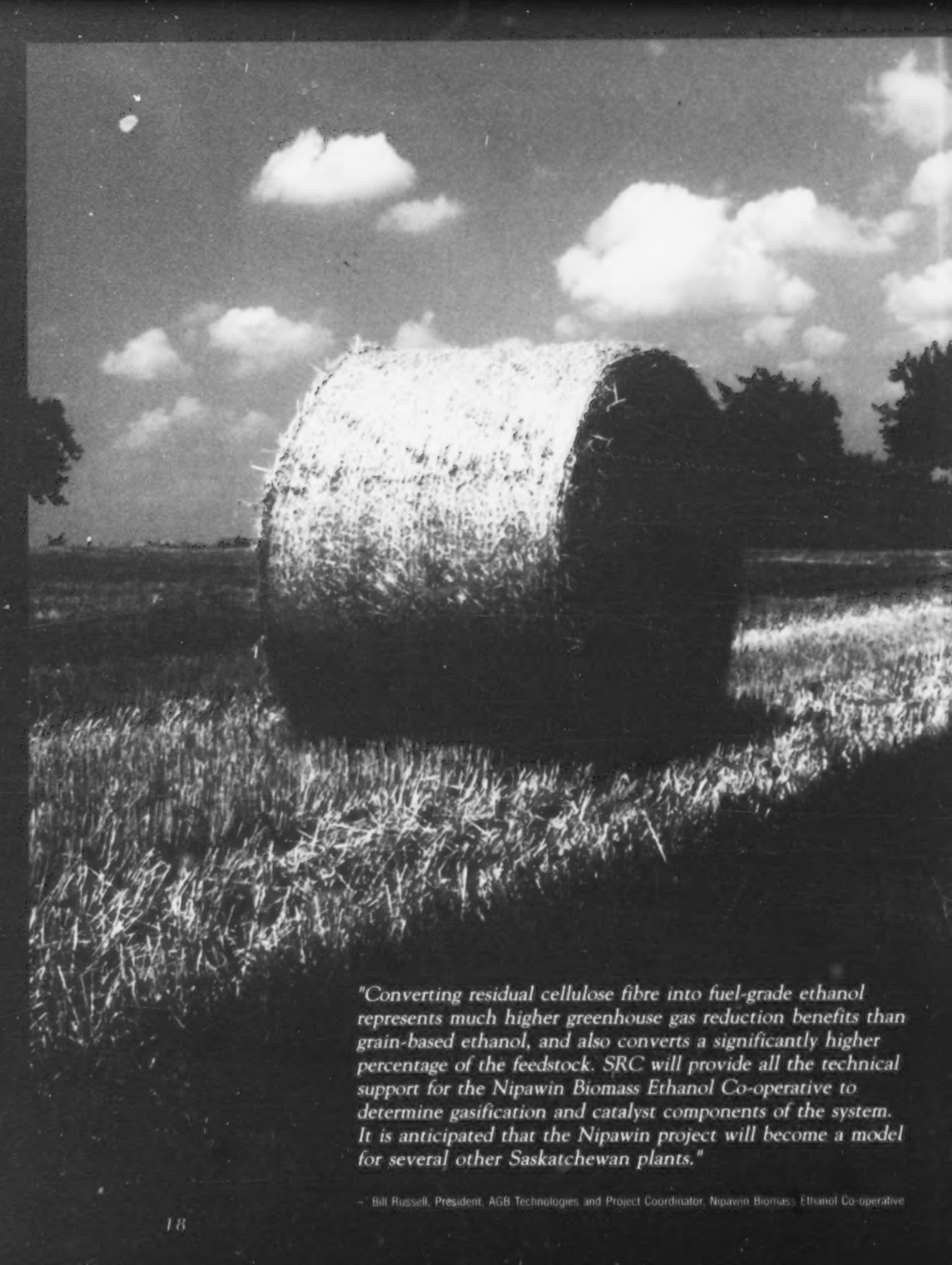
"Converting residual cellulose fibre into fuel-grade ethanol represents much higher greenhouse gas reduction benefits than grain-based ethanol, and also converts a significantly higher percentage of the feedstock. SRC will provide all the technical support for the Nipawin Biomass Ethanol Co-operative to determine gasification and catalyst components of the system. It is anticipated that the Nipawin project will become a model for several other Saskatchewan plants."

– Bill Russell, President, AGB Technologies and Project Coordinator, Nipawin Biomass Ethanol Co-operative



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Manufacturing and Value-Added Processing

Made-in-Saskatchewan Ethanol Technology

Saskatchewan's ethanol industry took a major step forward this year with the announcement of $950,000 in federal-provincial funding toward a $2.1 million biomass-based ethanol commercialization initiative in Nipawin, Saskatchewan.

The goal of the project, which involves a consortium of municipal governments, First Nations and Métis organizations, and corporate partners, is to build a 75-million litre ethanol facility. Unlike conventional grain-based ethanol production, the Nipawin plant will use forestry and agricultural biomass, such as wood chips and excess straw, as a feedstock.

The extensive, multi-year project includes technology development and plant design, along with analysis of the environmental implications, feedstock availability and marketing potential. The objective is to come up with a business and engineering development plan that would enable production on a commercial scale, potentially leading to the establishment of a major facility in Nipawin.

Nipawin Biomass Ethanol New Generation Co-operative will receive $950,000 in Western Economic Partnership Agreement (WEPA) funds over two years to help develop and commercialize a new made-in-Saskatchewan ethanol production process. The process involves the gasification of biomass to produce synthetic gas (syngas) and the catalytic conversion of syngas to ethanol. Research by SRC's Production and Processing Business Unit will focus on developing a syngas to ethanol catalytic process.

The province's cellulose ethanol capacity is estimated at several billion litres annually. Successful development of the technology could have significant economic and environmental implications for Saskatchewan, including opportunity to tap into a large North American market for ethanol-blended fuel.

Smart Fuel Solutions

SRC's Alternative Energy Products Business Unit developed the world's first hydrogen-gasoline truck. SRC developed the technology for ECCE Energy Corporation, Natural Resources Canada (NRCan), and Saskatchewan Industry and Resources and applied it to a General Motors pickup truck.

Abundant and environmentally friendly, hydrogen is considered a possible future replacement for gasoline and diesel fuels. While a number of issues stand in the way of its widespread adoption, the development of prototype dual-fuelled hydrogen vehicles is considered a significant step forward.

"We have already had considerable interest from various parts of Canada in obtaining demonstration hydrogen vehicles," reports SRC Principal Research Engineer Sheldon Hill. "Hydrogen fuel cells have received a lot of attention, but converting existing engines to hydrogen is much less costly. As an interim measure, it helps create demand for hydrogen and builds experience with an important alternative fuel."

A critical issue with hydrogen is storage. As a gas, hydrogen requires considerably more on-board storage space than liquid fuels like gasoline. The solution is high-pressure cylinders, but these require a high level of attention to safety issues. SRC is a key participant in a study to develop and install damage detection systems for pressurized cylinders. The project, which will cost $807,000, involves support from SRC, NRCan, and Precarn

Incorporated, a national consortium supporting the development of intelligent systems technologies.

SRC already developed a system to detect problems in smaller 33 litre cylinders, however the new research will provide for an intelligent monitoring system for large (150 litre) 5000 psi cylinders.

SRC is also involved in the development of vehicles fuelled by ethanol. Ethanol-blended gasoline is already common in Canada. To be tolerated in standard engines, ethanol must be processed—at a relatively high cost—to eliminate water. The intent of SRC's ethanol project is to develop fueling systems that operate on lower-cost, hydrated ethanol that contains about five percent or more water, and no gasoline.

One project involves the conversion of a Duetz-Allis tractor to 100% hydrated ethanol. The goal of the project is to develop technology that can allow farm vehicles to operate on low-grade ethanol produced by farmer-owned co-ops.

"The converted tractor is operational," says Mike Sulatisky, Manager of SRC's Alternative Energy Products Business Unit. "We are now assessing performance and deciding how to optimize the technology. Meanwhile, we are working with funds from Natural Resources Canada to develop a truck fuelled by a combination of diesel and hydrated ethanol. Advantages of the technology include the reduction of carbon dioxide and nitrogen oxide emissions."

Smart fuel solutions developed by SRC pave the way for the renewable, environmentally friendly fuels of the future and help build Saskatchewan's technology sector.

Meteorological System Support in Central Asia

For most of SRC's employees, getting to work is an easy commute, sometimes even by foot or bicycle. For Senior Research Technologist Brett Smith, however, getting to work can mean a multi-stage flight to Central Asia, followed by a 400-km drive, including a 200-km single track road trip through the desert—in a Lada.

Smith has already been on three trips to Kyrgyzstan, Kazakhstan, and Mongolia, where he installs and troubleshoots meteorological and environmental monitoring equipment at gold and uranium mine sites. SRC won the contracts in Central Asia as a result of its track record servicing similar equipment in northern Saskatchewan, including work at Cameco's mine sites. Cameco is a partner in uranium and gold mines in the three former Soviet republics.

"My first job was to calibrate an existing meteorological system," says Smith, "but I have also helped install and service new equipment used for a number of purposes. We measure stream flows, monitor air quality and report weather data."

SRC continues with similar work in Saskatchewan. "Recently we helped Cameco set up a system to monitor the cloud ceiling at McArthur River so that their planes can land safely."

Increasingly, SRC is putting Saskatchewan technology and experience to work throughout the world, helping to build the provincial and global economies.

Energy Efficient Housing Projects Underway

Saskatchewan's strong history in energy efficient housing design will take another step forward in 2005 with the construction of the "Factor 9 Home" in Regina. The house is designed to use 90% less energy and 50% less water than a conventional 1970's home of the same size.

Factor 9 refers to a calculation of the amount of energy available for household use in a sustainable world, as compared with existing homes. The house will involve a number of improvements over previous energy efficient designs, including the Saskatchewan Conservation House (built in 1978), the Saskatchewan Advanced House (1992), and the Dumont House (1992).

SRC's Building Performance Business Unit will collaborate with a number of partners on the project, including Communities of Tomorrow, the Office of Energy Conservation, the University of Regina, the City of Regina and Natural Resources Canada.

Special design features will include lot selection and landscaping to maximize solar exposure; high levels of insulation; an airtight building envelope; high efficiency heating, cooling, ventilation, lighting, and appliances; and a variety of additional features to reduce environmental impacts typical of modern homes.

In a similar project, SRC's Building Performance Business Unit, with funding from Communities of Tomorrow, will collaborate with AC Realty, a division of the Agency Chiefs Tribal Council, to improve the energy performance and sustainability of the company's manufactured homes. AC Realty produces homes mainly for First Nations communities.

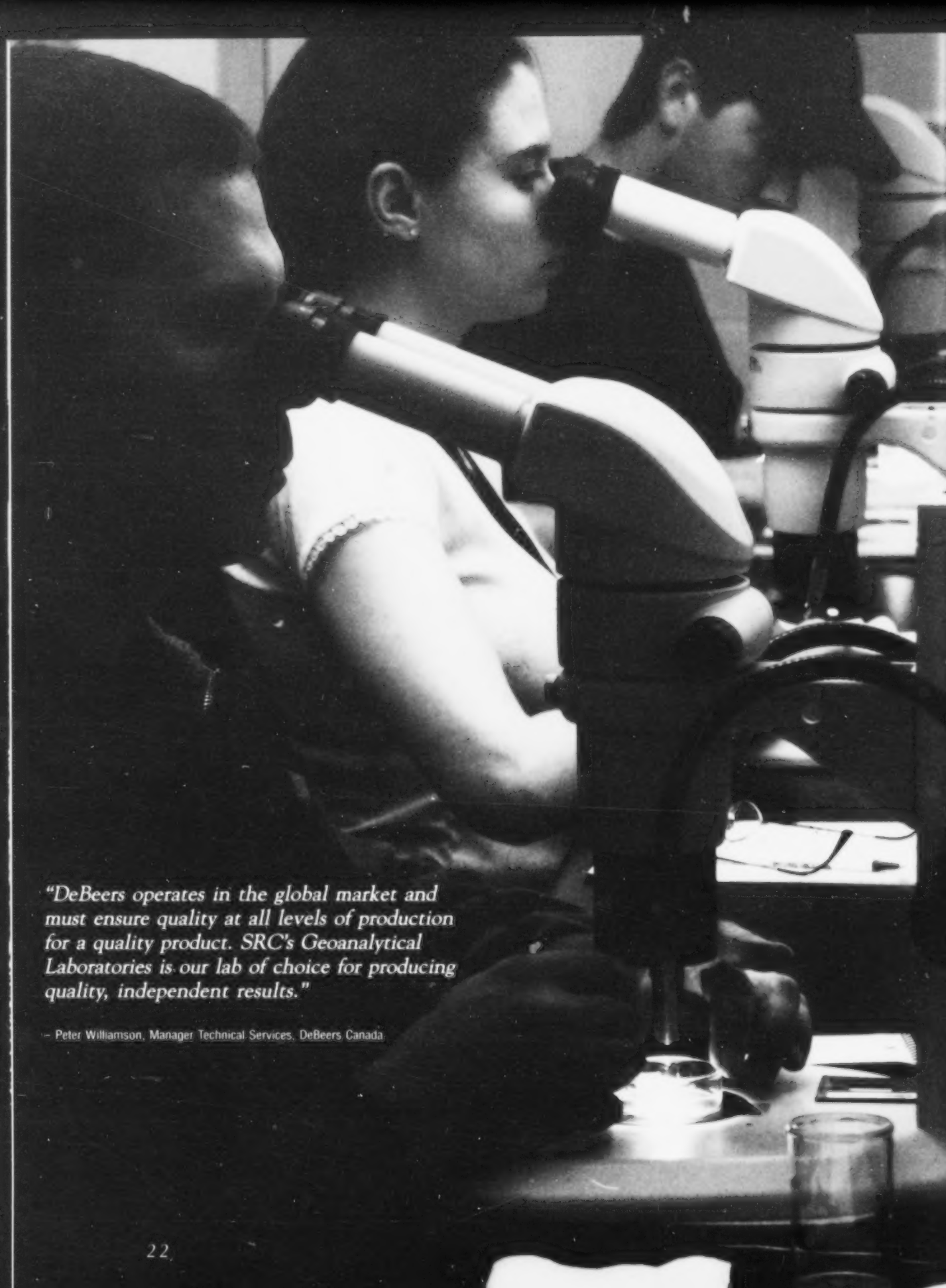
"Agency Chiefs Tribal Council is working with SRC to design and build the new "Centennial Home," which is not only as durable and easy to maintain as our existing models, but also more sustainable. As a result of our close working relationship with the people at SRC, we look forward to delivering energy efficient homes to new home-owners in Canada, as well as First Nations people."

– Lyle Whitefish, Tribal Chief, Agency Chiefs Tribal Council

The AC Centennial Home, a demonstration project, will be built in Leoville, Saskatchewan in 2005. The objective is to demonstrate a reduction in residential energy use of 35% compared with homes built to the Canadian Model National Energy Code for Houses, at low or no incremental cost. The house will also incorporate other features, such as reduced water use, high durability, construction waste management, and high indoor air quality.

One important feature of the project is community participation. Thirty-five people attended a design workshop to learn about the project and provide input and expertise towards the goal of building a successful demonstration home.

Both projects demonstrate SRC's capacity to improve the environmental performance of Saskatchewan's residential housing sector. This will help Canada meet its commitments to reduce greenhouse gas emissions while reducing consumer energy costs.



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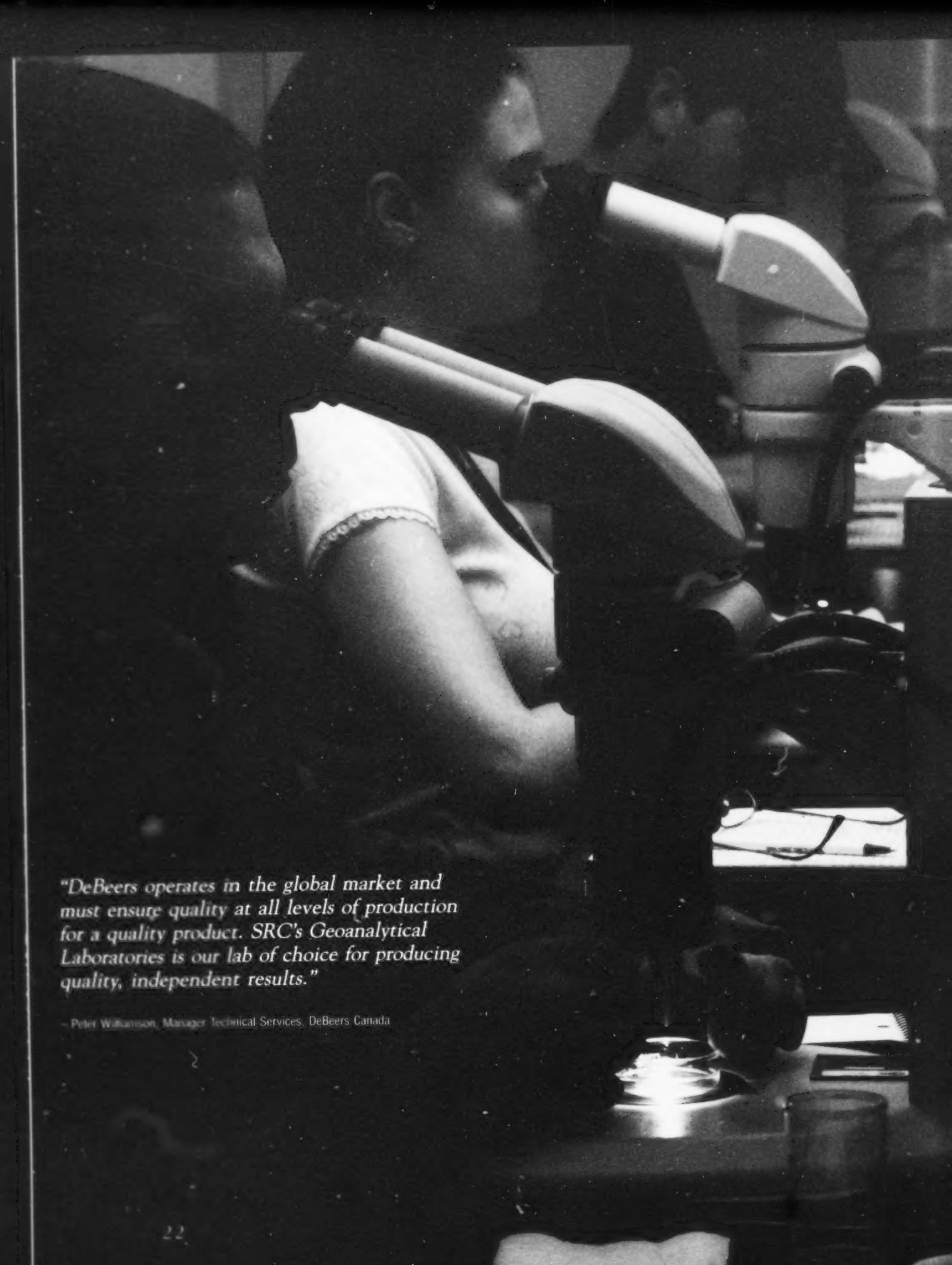
– Peter Williamson, Manager Technical Services, DeBeers Canada



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Mining and Minerals

Secure Diamond Facility Under One Roof

"Canada's diamond industry is growing by leaps and bounds," says Bernard Gartner, Manager of SRC's Geoanalytical Laboratories. "We are geared up to accommodate this growth; in fact, our entire focus is on providing the industry with excellent analytical service and rapid turnaround times on all samples."

The Geoanalytical Laboratories underwent a remarkable expansion in 2004, with additional growth slated for 2005. "We already tripled the amount of ore we can process for macro and micro diamonds," says Gartner. "Our secure facility is fully operational and when a second secure facility is completed mid-2005, we will have a total staff of 95. That's phenomenal growth."

SRC's secure diamond facility is now fully contained under one roof, which is unique to the North American industry. The entire diamond process, including processing, diamond extraction, and observation, occurs in the same facility.

In addition, the heavy liquids lab was upgraded to speed up the search for kimberlite indicator minerals. Kimberlite is the host rock from which diamonds are extracted. Capacity has increased from 4,000 to 10,000 samples per year. The material runs through two types of heavy liquids and the concentrates are observed microscopically by 16 observers and a mineralogist. "To my knowledge this is now one of the largest observation houses in the country," reports Gartner.

Meanwhile, the Geoanalytical Laboratories are also working overtime for the uranium industry. "We work 24 hours a day, five days a week assessing samples, with an additional shift on Saturdays and Sundays."

The heavy work volume is yielding solid revenues that have allowed the lab to make significant investments in additional equipment. Consequently, SRC's Geoanalytical Laboratories are fully prepared to service Saskatchewan's booming mining industry now and in the future.

Geoanalytical Laboratories Receive Donation of Equipment

Two companies involved in uranium exploration in the Athabasca Basin of northern Saskatchewan donated equipment to SRC's Geoanalytical Laboratories. The donation, valued at $43,000, will help the lab to further reduce turnaround times on data it analyzes for both the uranium mining and diamond industries.

JNR Resources president Richard Kusmirski said his company is producing a high volume of samples from its exploration project in the Athabasca Basin.

"We expect, and we continue to receive, high quality and timely service from SRC's labs. We recognized an opportunity to give something back to the labs and we are pleased to be able to help."

International Uranium Corporation (IUC) president Ron Hochstein added he is excited about the potential of the current exploration projects. "In 2005, IUC has an exploration budget of just over $13 million, of which about $10 million will be spent in the Province of Saskatchewan."

SRC's Geoanalytical Laboratories offer a wide variety of minerals analysis services for the uranium, diamond, gold, base metals and rare earth minerals exploration industries in Canada and throughout the world. The donation of lab equipment will be used to help the diamond lab streamline processes, resulting in reductions in processing times for

clients from days to hours and freeing up time to provide services for uranium companies like JNR and IUC. Environmental benefits of the new equipment include the reduction in the consumption of chemicals, which in turn reduces costs by up to $30,000 annually.

3D Virtual Reality and Modeling Facility Proposed

"It's not quite Star Trek's holodeck, but it's getting close," says Dr. Irvine Annesley of the 3D virtual reality and modeling facility that SRC is building in Saskatoon. Annesley, Manager of SRC's Mining and Minerals Business Unit, is excited about the application of virtual reality technology in a number of Saskatchewan industries, from mining to medicine.

On the holodeck, the Star Trek characters interact with lifelike 3D images in a virtual reality environment. In SRC's facility that is being constructed, professionals in fields like mining or medicine will be able to put on virtual reality glasses and observe three dimensional conceptual models of their data, mines, and/or subjects. A miner would be able to examine an ore body being studied for development, look at it from different perspectives, zoom in and out, and find details in the model.

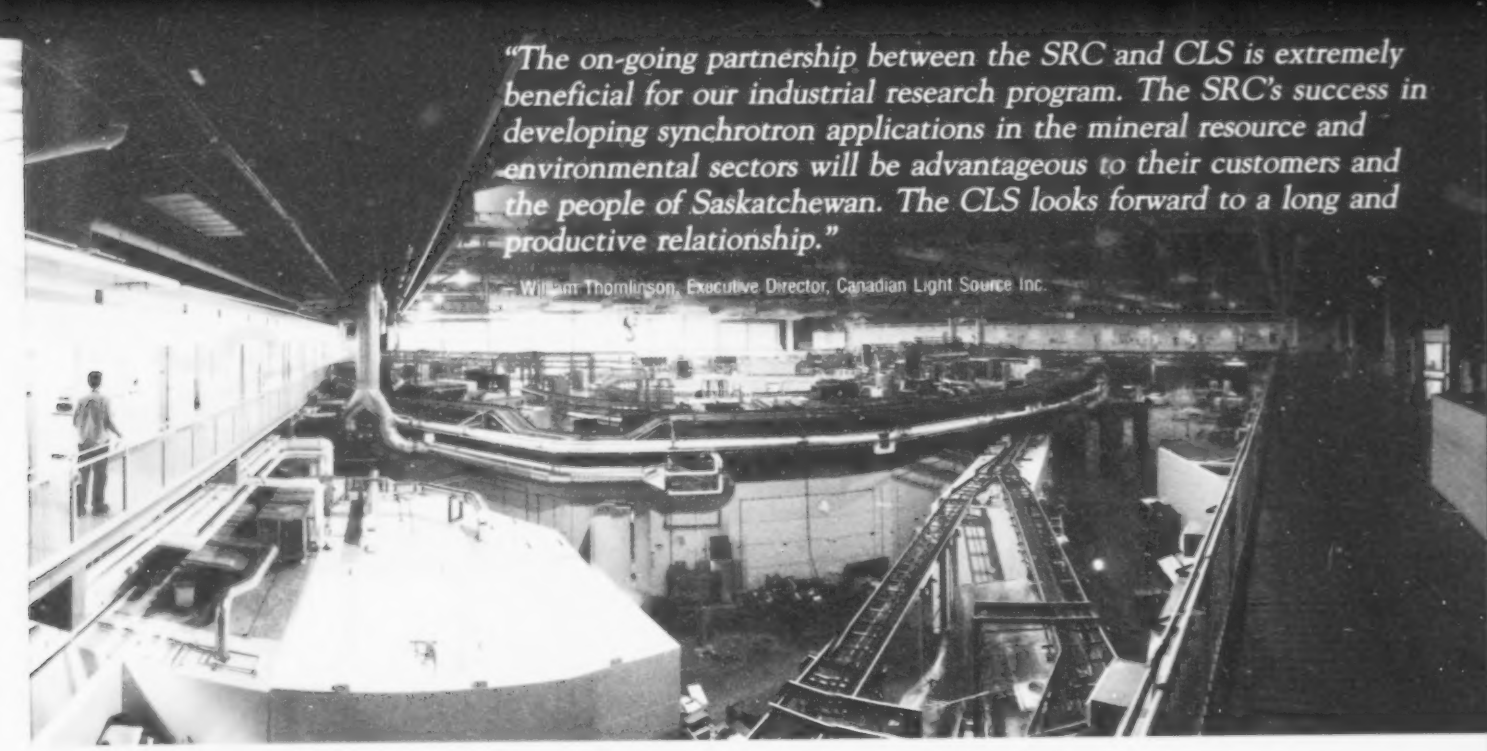
"Depending on the input data available," comments Annesley, "a mining geologist and/or engineer may be able to view a 3D model of an ore body to identify rich deposits, plan mine shafts and pillars, or avoid areas where water inflow is likely. A brain surgeon may be able to use information from brain scans to build a 3D model of a tumour in the brain, so that a strategy for an operation can be planned in advance."

The initial phase of the facility will be operational in the fall of 2005. When completed in Saskatoon, it is expected to cost $500,000. The University of Saskatchewan is contributing significantly in-kind by assisting with system design and operation and providing access to West Grid, a community of Western Canadian university computer centres. The facility is also expected to generate significant industry contribution through applied research.

In addition to mining and medicine, 3D virtual reality systems offer many practical applications in other fields such as environment (climate and ground water models, water resource management, and tailings management) and biotechnology (gene mapping and molecular structure determinations).

Petroleum, potash, and uranium companies will be initial users of the facility, along with University of Saskatchewan departments. Over the last 25 years, research and data collection on these resources has been extensive, and 3D visualization/modeling capabilities can be immediately applied. Once the facility is in place, the productivity of the energy and mineral resource sectors can be significantly increased.

The 3D facility will allow Saskatchewan to develop leading-edge projects in a variety of industries and will be especially effective in evaluating large volumes of 3D tomography data generated by some of the users of the Canadian Light Source synchrotron facility at the University of Saskatchewan.



"The on-going partnership between the SRC and CLS is extremely beneficial for our industrial research program. The SRC's success in developing synchrotron applications in the mineral resource and environmental sectors will be advantageous to their customers and the people of Saskatchewan. The CLS looks forward to a long and productive relationship."

– William Thomlinson, Executive Director, Canadian Light Source Inc.

SRC Congratulates the Canadian Light Source

SRC is proud to be a partner with the Canadian Light Source (CLS), Canada's new synchrotron facility located at the University of Saskatchewan (U of S), which had its grand opening in October 2004.

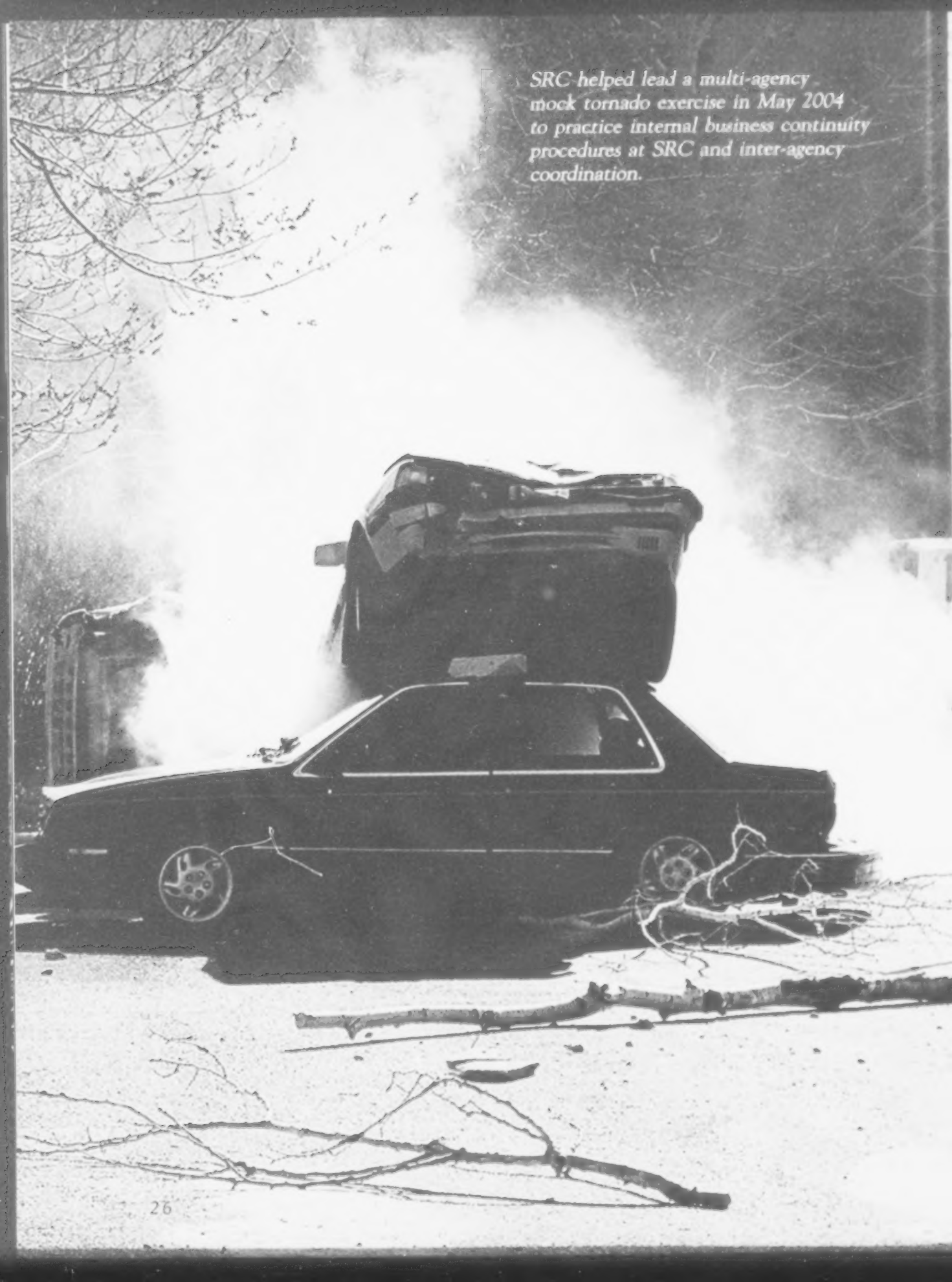
The made-in-Saskatchewan design is one of the brightest and more advanced of the third-generation synchrotrons in the world. Canadians will be the first to benefit from synchrotron-facilitated new discoveries in the areas of human health, environmental technologies, and materials and natural resource science.

Simply put, the synchrotron allows researchers to focus various types of brilliant light on materials, offering new ways to observe and understand their chemistry, structure, and functions.

SRC is already involved in several Saskatchewan-based projects focusing on mineral exploration, diamond industry support, and micro-particle emissions in the environmental protection field. SRC's researchers are currently working at synchrotron facilities in the United States, England, France and Germany. Building a newer-type facility in the province is an opportunity to do a large part of this research at home and will help attract more world-class scientists and technologists to Saskatoon.

A first call for proposals to do research at the CLS went out in September 2004, with the first experiments taking place in the late spring of 2005. All seven Phase I beamlines are expected to come on stream by mid-2005, while a $50 million Phase II expansion will add six more beamlines, with the first scheduled for commissioning in 2007/2008. In total, there is room for more than 30 beamlines at the CLS, meaning that a large number of experiments can occur at the same time, on a 24/7 basis.

Working collaboratively on synchrotron research provides both CLS and SRC a unique opportunity to help establish Saskatchewan as a world-class research and development site, able to attract international clients in a range of practical applications.



SRC helped lead a multi-agency mock tornado exercise in May 2004 to practice internal business continuity procedures at SRC and inter-agency coordination.

Multi-Agency Exercise Prepares SRC for Disaster

How would SRC handle a major disaster such as a tornado at one of its facilities? On May 6, 2004, police, fire, ambulance, and emergency measures services assembled at SRC's facilities in Saskatoon to try to answer that question by participating in a major disaster response exercise.

The "building collapse emergency response exercise," nicknamed BrickER, involved 300 SRC and emergency personnel. Its goals were to improve the understanding of each organization's capabilities and expectations and to reduce the unexpected in the event of an actual emergency. Each of the participating organizations was involved in planning, developing, and coordinating disaster scenarios over the seven months leading up to the exercise.

The event was designed to practice internal business continuity procedures at SRC and inter-agency coordination. It was a multi-agency exercise with representatives from Saskatoon Fire and Protection Services, Saskatoon Emergency Management Office, Innovation Place, Saskatoon Police Service, MD Ambulance, University of Saskatchewan Security, Saskatchewan Provincial Emergency Management Office, and Environment Canada.

"The event provided an opportunity to practice our disaster responses in a non-life threatening environment," says SRC's Business Continuity Coordinator Dave Arnott. "It identified response gaps and offered many valuable lessons that could ultimately save lives and reduce impacts should a major crisis occur here."

BrickER generated valuable experience that will help SRC in its goal to conduct all of its operations with the highest regard for the safety and health of its employees, the public, property, and the environment.

Health and Safety: Part of Everything We Do

"At SRC, we understand that everyone has a responsibility for safety in the workplace," says Stacey Mamer, SRC's Occupational Health and Safety Coordinator. "In fact, SRC's safety vision is that 'Safety and Occupational Health are the over-riding priorities for SRC.' That's why we aim to create a workplace culture where Occupational Health and Safety (OHS) is part of everything we do."

In 2004-05, SRC's management and employees had the opportunity to demonstrate their commitment to safety by signing Health and Safety Commitment Statements which are now displayed prominently in work areas across the company. SRC is also spearheading several programs designed to accelerate OHS goals:

- Each Business Unit is taking an in-depth look at every hazard and potential hazard in the workplace, to identify priorities for action, and to develop safe work practices to prevent injury or illness.
- Every reported incident and near miss is now recorded and investigated.
- To understand employees' perceptions and attitudes toward safety, all employees participated in a survey and the results are being used to plan future activities.
- Automatic External Defibrillators (AEDs) and trained responders were added to enhance the Emergency Response Plan.

"Excellence is part of everything we do at SRC and there is no reason why that standard shouldn't apply to safety considerations," comments Mamer. SRC's President and CEO Dr. Lauriet Schramm couldn't agree more, and adds: "We are currently developing a strategy to help take SRC towards outstanding, world-class safety performance, and we are moving closer to this goal every day."

Quality Management at SRC

SRC is developing a Quality Management System (QMS) to help the organization better meet customer needs and expectations, improve corporate-wide processes, and continuously improve overall performance.

"Our quality management vision is continuous improvement to ensure that the organization consistently meets customer needs and expectations while honouring its strategic goals and core values," says Jennifer Haskey, SRC's Quality Management Coordinator. To help achieve this vision, SRC adopted five overall objectives:

- Meet the demands, requirements and expectations of SRC's owners, employees, and clients, making stakeholder satisfaction a constant preoccupation within SRC.
- Permanently improve SRC's efficiency.
- Ensure that services are offered by competent employees.
- Ensure that providers and partners are chosen for their aptitude and commitment/agreement to provide quality products and services.
- Ensure that the improvement of quality is a primary and permanent goal.

QM is expected to increase customer satisfaction and reduce costs.

SRC Awards Saskatchewan Innovators

A Regina environmental company and two students, one from Foam Lake and the other from Saskatoon, were the recipients of SRC's Technology-In-Action (TIA) awards for 2004.

The objective of the TIA awards is to help residents of Saskatchewan develop the province as a highly skilled, fair, desirable and compassionate society with a secure environment. SRC oversees the awards, which were established by Ian and Pearl Wahn to honour their parents and grandparents, who were Saskatchewan pioneers.

Ground Effects Environmental Services, Inc. of Regina received the $10,000 TIA New Saskatchewan Product Award, which is presented in collaboration with the Saskatchewan Chamber of Commerce ABEX awards for business excellence. The company, which is considered an international leader in site remediation, developed a multi-phase, vapour extractor system to improve the process of removing and treating soil and ground water contaminants.

Terri Lynn Paulson of Foam Lake, an agriculture student at the University of Saskatchewan, developed a software package to improve the efficiency of herbicides used in Saskatchewan crops. Saskatonian Evan Manning, a civil engineering student at the University of Saskatchewan, was recognized for his work on integrating new technology into his family's outdoor paintball business. Both students received $2,500 awards, which are provided via the Rotary Club's Your Future is Here program.

Lee Wahn

Corporate Governance

Authority

The Saskatchewan Research Council (SRC) is a Treasury Board crown corporation governed by The *Research Council Act*. Within this framework, the Board formulates policy and delegates the responsibility and authority for the ongoing management of the corporation to the President & CEO.

Board Responsibilities

The Board ensures that the activities of the corporation are carried out under the terms of *The Research Council Act*. The Board oversees the stewardship of the corporation by accepting responsibility for strategic planning, financial management and monitoring business performance. The Board ensures that management has systems in place to identify and manage the principal risks of the corporation's business.

Board Composition And Compensation

The SRC Board is comprised of ten members with a diverse combination of knowledge and expertise including scientific, legal, management, financial and public relations skills. The members represent a cross-section of SRC's stakeholder community including individuals from business, industry, the public sector and academic institutions.

Nine directors, including the Chair, are independent of SRC management. The one related director is the President & CEO of the corporation.

Board members (except for members who are government employees) receive an honorarium for meetings attended. The level of compensation is established by Treasury Board. Members are allowed travel and associated expenses at SRC approved rates.

The Board And Management

The Board focuses on the strategic leadership of the corporation and does not become involved in day-to-day management, but delegates and entrusts operational decisions to senior management, holding senior management accountable for the company's performance, its long-term viability and the achievement of its objectives.

Committees

The Board of Directors has established the following committees to address specific areas of Board responsibility:

Audit/Finance Committee

The Audit/Finance Committee is responsible for monitoring, advising and making recommendations to the Board regarding all aspects of financial planning and the financial management of the organization. The Audit/Finance Committee acts as the communication link between the Board of Directors and the Provincial Auditor.

Governance Committee

The Governance Committee is responsible for monitoring, advising and making recommendations to the Board regarding the governance strategy of the corporation, assessing and evaluating Board and CEO performance, administering the Board-CEO relationship and monitoring and assessing risk within the corporation.

Board Orientation And Training

New directors appointed to the Board receive a Board of Directors' Briefing Book and attend an orientation session delivered by senior management and the Chair of the Board. The orientation session includes an overview of the corporation including mandate and mission, governance structure, partnerships, competition issues, 5-year strategic plan, financial/operational plan, SRC's strategic sectors and strategic approach, risk management strategy, communication strategies and economic impact assessment. A tour of SRC's facilities is provided to introduce new directors to SRC's operations.

Corporate Governance

Authority

The Saskatchewan Research Council (SRC) is a Treasury Board crown corporation governed by The *Research Council Act*. Within this framework, the Board formulates policy and delegates the responsibility and authority for the ongoing management of the corporation to the President & CEO.

Board Responsibilities

The Board ensures that the activities of the corporation are carried out under the terms of *The Research Council Act*. The Board oversees the stewardship of the corporation by accepting responsibility for strategic planning, financial management and monitoring business performance. The Board ensures that management has systems in place to identify and manage the principal risks of the corporation's business.

Board Composition And Compensation

The SRC Board is comprised of ten members with a diverse combination of knowledge and expertise including scientific, legal, management, financial and public relations skills. The members represent a cross-section of SRC's stakeholder community including individuals from business, industry, the public sector and academic institutions.

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Report of Management
Year Ended March 31, 2005

The accompanying financial statements are the responsibility of the management of the Saskatchewan Research Council. They have been prepared in accordance with Canadian generally accepted accounting principles, using management's best estimates and judgements, where appropriate.

Management is responsible for the reliability and integrity of the financial statements, the notes to the financial statements, and other financial information contained in this report. Management is also responsible for maintaining a system of internal controls, policies and procedures designed to provide reasonable assurance that assets are safeguarded and that accounting systems provide timely, accurate and reliable financial information.

The Board of Directors is responsible for ensuring that management fulfills its responsibilities for financial reporting and internal control. The Board is assisted in exercising its responsibilities through the Audit/Finance Committee, which is composed of five non-management directors and one management director. The Committee meets periodically with management to satisfy itself that management's responsibilities are properly discharged, to review the financial statements and to recommend approval of the financial statements to the Board.

The Provincial Auditor of Saskatchewan has audited the Council's financial statements in accordance with Canadian generally accepted auditing standards and his report follows.

Laurier Schramm
President and CEO

Crystal Smudy, CA
Chief Financial Officer

Consolidated Financial Statements
Year Ended March 31, 2005

Auditor's Report

To the Members of the Legislative Assembly of Saskatchewan.

I have audited the consolidated balance sheet of the Saskatchewan Research Council as at March 31, 2005 and the consolidated statements of operations and retained earnings and cash flows for the year then ended. The Council's management is responsible for preparing these financial statements for Treasury Board's approval. My responsibility is to express an opinion on these financial statements based on my audit.

I conducted my audit in accordance with Canadian generally accepted auditing standards. Those standards require that I plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In my opinion, these consolidated financial statements, present fairly, in all material respects, the financial position of the Council as at March 31, 2005 and the results of its operations and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

Regina, Saskatchewan
May 13, 2005

Fred Wendel, CMA, CA
Provincial Auditor

Report of Management
Year Ended March 31, 2005

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Regina, Saskatchewan
May 13, 2005

Fred Wendel, CMA, CA
Provincial Auditor

CONSOLIDATED BALANCE SHEET

As At March 31

(Thousands of dollars)

STATEMENT 1

	2005	2004 Restated (Note 3)
ASSETS		
Current assets:		
Cash (Note 7)	$ 1,086	$ 194
Accounts receivable	4,653	4,101
Prepaid expenses	476	501
	6,215	4,796
Non-current assets:		
Accrued benefit asset (Note 4)	74	59
Restricted investment (Note 5)	592	518
Trust investment (Note 9)	500	0
Property, plant and equipment (Note 6)	7,026	6,439
	$ 14,407	$ 11,812
LIABILITIES AND PROVINCE'S EQUITY		
Current liabilities:		
Accounts payable	$ 2,187	$ 905
Unearned revenue	1,644	1,560
Deferred revenue (Note 8)	399	399
Salaries and wages payable	702	844
Vacation payable	156	91
	5,088	3,799
Non-current liabilities:		
Sick leave benefits payable	275	293
Asset retirement obligation (Note 9)	1,451	1,376
Deferred revenue (Note 8)	856	1,255
	7,670	6,723
Province's equity:		
Contributed surplus	922	922
Retained earnings - unappropriated (Statement 2)	5,223	3,649
Retained earnings - appropriated (Note 5)	592	518
	6,737	5,089
	$ 14,407	$ 11,812

(See accompanying notes to the financial statements)

CONSOLIDATED STATEMENT OF OPERATIONS AND RETAINED EARNINGS

Year Ended March 31

(Thousands of dollars)

STATEMENT 2

	2005 (Note 14)	2004 Restated (Note 3)
Revenue:		
Contracts	$ 19,363	$ 16,063
Grant - General Revenue Fund	7,865	7,877
Grant - Agri-Food Innovation Fund (Note 8)	399	399
Interest revenue	98	57
Change in restricted investment (Note 5)	74	113
	27,799	24,509
Expenses:		
Salaries and benefits	12,873	11,846
Supplies and services	6,835	5,312
Accommodation charges	4,445	4,410
Amortization of property, plant and equipment	1,614	1,346
Amortization of Agri-Food Innovation Fund funded assets (Note 8)	399	399
	26,166	23,313
Net income from operations	1,633	1,196
Defined benefit pension plan revenue (Note 4)	15	111
Net income	1,648	1,307
Retained earnings - unappropriated, beginning of year	3,649	2,455
Change in appropriated amount during year (Note 5)	(74)	(113)
Retained earnings - unappropriated, end of year - to Statement 1	$ 5,223	$ 3,649

(See accompanying notes to the financial statements)

CONSOLIDATED STATEMENT OF CASH FLOWS

Year Ended March 31

(Thousands of dollars)

STATEMENT 3

	2005	2004
Cash flows from operating activities:		
Cash receipts from contracts	$ 18,805	$ 14,489
Cash receipts from General Revenue Fund	7,865	7,964
Cash paid to suppliers and employees	(22,831)	(21,217)
Interest received	98	57
Cash flows from operating activities	3,937	1,293
Cash flows from investing:		
Purchase of trust investment (Note 9)	(500)	0
Purchase of property, plant and equipment	(2,602)	(1,288)
Proceeds from sale of restricted investment	57	0
Cash flows used in investment activities	(3,045)	(1,288)
Net increase in cash position	892	5
Cash beginning of year	194	189
Cash end of year	$ 1,086	$ 194

(See accompanying notes to the financial statements)

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
March 31, 2005

1. Status of Saskatchewan Research Council

Saskatchewan Research Council ("the Council") was established pursuant to Section 3 of *The Research Council Act* for the purpose of research and investigation in the fields of the physical sciences, pure and applied, as they affect the economy of the Province of Saskatchewan. The Council is a body corporate which receives monies appropriated by the Legislature for these purposes. It is also empowered to conduct research under contract for others and to receive financial assistance pursuant to agreements with other similar agencies.

2. Summary of Accounting Policies

The financial statements are prepared in accordance with Canadian generally accepted accounting principles. The following accounting principles are considered to be significant:

a) Consolidation Principles and Basis of Presentation

The accounts of TecMark International Commercialization Inc., a wholly owned subsidiary of the Saskatchewan Research Council, are consolidated in these financial statements.

The Council's proportionate share of the assets, liabilities, revenues, expenses and cash flows of a joint venture with Bova-Can Parentage Testing Inc. are included in these financial statements.

b) Accrual Basis

The financial statements are prepared on the accrual basis of accounting.

c) Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles in Canada requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

d) Revenue Recognition

Revenue from contract work is recognized on the percentage-of-completion method, which recognizes revenue as a contract progresses.

2. Summary of Accounting Policies (Continued)

Unbilled revenues are accrued to the year-end for these contracts, while pre-billed revenues received are classified as unearned revenue.

Grants from the General Revenue Fund are unrestricted in nature and recognized as they are received or receivable.

Other contributions that are restricted for a specified use are deferred and are recognized as revenue when the related expenses are incurred.

Agri-Food Innovation Fund (AFIF) revenue is recognized at the same rate as the related assets are put in use and amortized.

e) Property, Plant and Equipment

The assets of the Council are initially recorded at cost, including labour, material and overhead for self-constructed assets.

Amortization of property, plant and equipment is provided over the estimated useful lives of the assets on the following basis:

i) Sum-of-the-years'-digits method	
Buildings	20 years
Equipment	5-10 years
ii) Declining balance method	
Automotive	33⅓%
iii) Straight-line	
Goodwill	5 years
Leaseholds	2 - 9 years
Fermentation and GenServe Equipment	10 years

f) Accrued Vacation Credits

The costs associated with vacation credits are recognized when the vacation entitlements are earned. The value of credits earned to the year-end but not taken is reflected as a liability.

2. Summary of Accounting Policies (Continued)

g) Sick Leave Benefits

The Council allowed employees to accumulate 10% of their unused sick leave credits earned to March 31, 1998. The costs associated with these sick leave benefits was recognized when the benefits were earned.

The practice of paying out sick leave credits ceased effective April 1, 1998. Upon termination of employment the Council pays out 10% of the accumulated unused sick leave credits to March 31, 1998, based on the wage rate in effect at March 31, 1998.

h) Restricted Investment

The investment is comprised of deposits in units in a balanced mutual fund managed by a professional investment manager. The balanced mutual fund has no fixed interest rate, and the return is based on the performance of the fund. Additional units in the mutual fund are acquired when distributions are made by the fund. Cash dividends are not paid by the fund; however, investors can realize changes in the underlying unit values by redeeming units.

Units in the mutual fund are recorded in the accounts at their net asset value per unit. Net asset value per unit is the market value of the investments in the fund portfolio divided by the total number of outstanding units in that fund. The adjustment necessary to record units at their net asset value at the year-end is shown as a change in restricted investment on the Consolidated statement of operations and retained earnings.

3. Changes in Accounting Policies

Asset Retirement Obligation

Effective April 1, 2004, the Council retroactively adopted the "Asset Retirement Obligations" (ARO) accounting recommendations. The fair value of legal obligations to retire long-lived assets are recorded as ARO with a corresponding increase in the carrying amount of the related assets. The recorded ARO increases over time through accretion charges to earnings. The capitalized assets are depreciated to income consistent with the depreciation of the related assets.

With the change in the accounting policy, the previous accrual for decommissioning has been removed and the new ARO and related capitalized asset have been recorded. The net effect of this change has been adjusted in the 2004 Retained earnings – unappropriated.

3. Changes in Accounting Policies (Continued)

The prior period financial statements have been restated to reflect this change in accounting policy as shown in the following table.

Consolidated Balance Sheet – As at March 31, 2004	Increase/ (Decrease) (000's)
Assets	
Net property, plant and equipment	$ 112
Liabilities	
Accrual for decommissioning	(1,358)
Asset retirement obligation	1,376
Province's equity	
Retained earnings – unappropriated	95

Consolidated Statement of Operations And Retained Earnings – Year ended March 31, 2004	Increase/ (Decrease) (000's)
Supplies and services [1]	$ (77)
Amortization of property, plant and equipment	11
Net income	66
Retained earnings – unappropriated beginning of year	29

[1] Includes former decommissioning expense and new accretion expense.

4. Accrued Benefit Asset - Pension Plan

The Council maintains a pension plan for its employees. Until December 31, 1990, it was a defined benefit plan. Effective January 1, 1991, the plan was changed to a defined contribution plan. The changes do not affect existing pensioners who will continue to receive benefits as granted. The latest actuarial valuation was updated as at January 1, 2004. The pension plan has been valued using management's best estimates.

The defined contribution plan had a market value of $18,962,000 (2003 - $16,925,000) at December 31, 2004. The value of the defined contribution plan assets and liabilities has not been extrapolated from December 31 to March 31. By design, the liabilities will always equal the assets of a defined contribution plan.

4. Accrued Benefit Asset - Pension Plan (Continued)

The defined benefit asset and obligation have been extrapolated from the January 1 actuarial valuation to March 31. The financial position of the defined benefit plan is as follows:

	2005 ($000's)	2004 ($000's)
Defined benefit asset at market value, January 1	$ 2,691	$ 2,709
Net change in asset value	(40)	(39)
Asset value, extrapolated to March 31	2,651	2,670
Defined benefit obligation at January 1	2,472	2,508
Net change in obligation	105	103
Obligation, extrapolated to March 31	2,577	2,611
Accrued benefit asset, March 31	$ 74	$ 59

Upon termination of the Plan, any accrued benefit asset of the Pension Fund remaining, after discharging all liabilities, shall belong to the Council. The accrued benefit asset may be distributed in a manner to be determined by the Council, at its sole discretion, after receiving prior approval in accordance with *The Pension Benefits Act, 1992*, the *Income Tax Act (Canada)* and the regulations thereunder.

The defined benefit pension plan revenue of $15,000 (2004 - $111,000) is the year over year change in the accrued benefit asset and obligation. The defined contribution pension plan expense (employer contributions) for the year was $545,000 (2004 - $517,000). The benefits paid from the defined benefit pension plan during the year were $322,000 (2004 - $311,000). Effective January 1, 2003 the Council is not being reimbursed for administrative costs incurred by the pension plan.

5. Restricted Investment

Restricted investment represents the Technology in Action Fund ("Fund"), which was established by the Council in 1994 when Mr. Ian Wahn made a gift to the Council, an agent of the Crown. The Fund was established to help the people of Saskatchewan develop their province as a highly skilled, fair, desirable and compassionate society with a secure environment through research, development and the transfer of innovative scientific and technological solutions, applications and services. The Council received a binding ruling from the Canada Revenue Agency that accepts this as a "Gift to the Crown".

5. Restricted Investment (Continued)

The Council maintains a separate account for the capital contributions and all investment income earned. The balance of the fund at March 31 is as follows:

	2005 (000's)	Change (000's)	2004 (000's)
Capital contributions	$ 504	$ 0	$ 504
Investment earnings	203	97	106
Technology grants, fund expenses	(115)	(23)	(92)
Total	$ 592	$ 74	$ 518

The investment earnings includes the actual earnings of the investment and the year over year change in the market value of the assets.

6. Property, Plant and Equipment

	2005 Cost	2005 Accumulated Amortization	2005 Net Book Value	2004 Net Book Value Restated (Note 3)
	(000's)	(000's)	(000's)	(000's)
Buildings	$ 601	$ 387	$ 214	$ 258
Leaseholds	4,407	2,890	1,517	1,478
Equipment	18,488	14,592	3,896	2,900
Automotive	205	172	33	26
Slowpoke Asset	381	280	101	112
Fermentation Facility	3,370	2,341	1,029	1,373
GenServe Equipment	562	337	225	281
Land	11	0	11	11
	$ 28,025	$ 20,999	$ 7,026	$ 6,439

Included in the cost and net book value of equipment, is $243,000 (2004 - $20,000) of assets that were not amortized because they were not ready for use.

With the adoption of the Asset Retirement Obligation accounting recommendations (as discussed in note 3), the new asset recognized is the Slowpoke Asset included in the above table.

7. Bank Indebtedness

The Council was authorized by the Minister of Finance to establish a line of credit not to exceed $5,100,000. There is an assignment of the accounts receivable as collateral for bank indebtedness. Interest is charged on the line of credit at the Bank of Montreal prime rate.

8. Deferred Revenue

The Council received contributions for certain property, plant and equipment, which it records as deferred revenue until such time as the related assets are put in use and amortized.

a) GenServe Equipment and Fermentation Facility

The total amount of deferred revenue is $1,255,000 (2004 - $1,654,000). During the year the Council recorded $399,000 (GenServe $56,000 and Fermentation $343,000; 2004 - $56,000 and $343,000 respectively) as revenue based on the amortization of the related property, plant and equipment.

The long-term portion, $856,000 (GenServe $169,000 and Fermentation $687,000; 2004 - $225,000 and $1,030,000 respectively), represents AFIF monies used to purchase property, plant and equipment that will be recognized as revenue at the same rate that the related assets are amortized.

b) Current Good Manufacturing Practice BioSafety Level 3 Facility

During the year, SRC committed to establishing a current Good Manufacturing Practice and BioSafety Level 3 (cGMP/BSL3) facility. Under the Western Economic Partnership Agreement (WEPA), approximately $2.9M will be provided for the design, construction, commissioning and validation of the facility. The funding is being provided on an equal basis by Western Economic Diversification Canada and Saskatchewan Industry and Resources (SIR). As at March 31, 2005 $500,000 had been received from SIR and is recorded as deferred revenue.

9. Asset Retirement Obligation

The Canadian Nuclear Safety Commission (CNSC) licensing conditions require that SLOWPOKE reactor owners have in place a decommissioning plan and a financial plan to cover the associated costs.

The determination of the ARO is based on the current estimated costs of decommissioning. The eventual decommissioning is estimated to occur in 2015 and require eighteen months to complete. The discount rate used to determine the current value of the obligation is 5.5%. The obligation at year-end is $1,451,000 (2004 - $1,376,000).

At March 31, 2005 the Council has invested $500,000 in a legal trust for purpose of settling the ARO. The terms of the trust agreement require the Council to contribute annually to the trust account over the next five years until the balance equals the current estimated decommissioning costs. The funds cannot be used for any purpose without prior approval of CNSC.

10. TecMark Inc.

TecMark International Commercialization Inc. ("TecMark") was incorporated under *The Business Corporations Act (Saskatchewan)* on October 9, 1996, as a wholly owned subsidiary of the Council. The purpose of the Corporation is to assist in the commercialization of technology for inventors, entrepreneurs and partner institutions in the Province of Saskatchewan.

Supplies and services includes $45,182 (2004 - $43,885) in connection with projects undertaken by TecMark.

11. Office of Energy Conservation

The Office of Energy Conservation (OEC) is a part of the Council. It is headed by the Director of OEC who is an employee of the Council. The mandate of the OEC is to develop and implement cost effective energy conservation initiatives, including public information demonstrations of energy conservation measures and to encourage voluntary action by public and industry. The OEC is guided by a Steering Committee that is comprised of representatives from, but not limited to, Saskatchewan Power Corporation (SaskPower), SaskEnergy Incorporated, Crown Investments Corporation of Saskatchewan, Department of Industry and Resources (IR), and Department of Environment. Funding is provided by IR, SaskPower, and SaskEnergy. During the year the OEC earned revenue of $839,000 (2004 - $553,000) and incurred expenses of $831,000 (2004 - $553,000).

12. Joint Venture

Effective February 1, 1997, the Council entered into a 50 percent ownership joint venture with Bova-Can Parentage Testing Inc. The agreement was renewed June 1, 2001 for an additional five years. The agreement provides Bova-Can Laboratories with access to all animal lists and history, and the genotyping market. Upon termination of this agreement, the Council agrees to provide to each breed association, upon request, a copy of their complete database of genotypes, and access to, and control over, samples from the DNA bank. The Council and Bova-Can Parentage Testing Inc. will each receive 50% of the net assets.

The Council's pro-rata share of its interest in the joint venture is as follows:

	2005 ($000's)	2004 ($000's)
Current Assets	$ 190	$ 204
Long-term Assets	16	26
Current Liabilities	13	24
Long-term Liabilities	5	6
Revenue	416	442
Expenses	429	450
Net (Loss)	(13)	(8)
Cash flows resulting from operating activities	14	23
Cash flows resulting from investing activities	0	(17)

13. Related Party Transactions

Included in these financial statements are transactions with various Saskatchewan Crown corporations, departments, agencies, boards and commissions related to the Council by virtue of common control by the Government of Saskatchewan and non-Crown corporations and enterprises subject to joint control or significant influence by the Government of Saskatchewan (collectively referred to as "related parties").

Routine operating transactions with related parties are settled at prevailing market prices under normal trade terms except for the following:

During the year, the Council paid $3,984,000 (2004 - $3,975,000) to the Saskatchewan Property Management Corporation (SPMC) and Saskatchewan Opportunities Corporation (SOCO) for accommodation charges on buildings. At year-end, the Council has lease commitments with SOCO requiring minimum lease payments of:

2006	$ 213,000

In 2005, the Council purchased supplies and services for $1,699,000 (2004 - $980,000) from related parties.

During the year, the Council entered into fee-for-service contracts for $2,615,000 (2004 - $2,061,000) with related parties, of which $406,000 (2004 - $304,000) remains in accounts receivable as at March 31. The Council has $1,255,000 (2004 - $1,654,000) of deferred revenue from related parties as at March 31. Of the $1,255,000, $1,030,000 (2004 - $1,373,000) is related to the Fermentation Facility's funding from AFIF and $225,000 (2004 - $281,000) is related to the GenServe funding from AFIF.

During the year, the Council provided general administrative services to the Saskatchewan Research Council Employees' Pension Plan without charge.

Other transactions with related parties and amounts due to/from them are described separately in the financial statements and the notes thereto.

14. Comparison of Planned and Actual Results

A comparison of actual to budgeted results for each line item on the income statement follows:

	Actual 2005	Budget 2005	Actual 2004 Restated(Note 3)	Budget 2004
	(000's)	(000's)	(000's)	(000's)
Revenue:				
Contracts	$ 19,363	$ 22,531	$ 16,063	$ 17,347
Grant - General Revenue Fund	7,865	7,879	7,877	7,714
Grants - AFIF	399	399	399	399
Interest revenue	98	40	57	50
Change in restricted investment	74	0	113	0
	27,799	30,849	24,509	25,510
Expenses:				
Salaries and benefits	12,873	13,092	11,846	11,485
Supplies and services	6,835	10,763	5,312	7,837
Accomodation charges	4,445	4,529	4,410	4,557
Amortization of property, plant and equipment	1,614	1,680	1,346	1,000
Amortization of AFIF funded assets	399	399	399	399
	26,166	30,463	23,313	25,278
Net income from operations	1,633	386	1,196	232
Defined benefit pension plan revenue	15	0	111	0
Net income	$ 1,648	$ 386	$ 1,307	$ 232

15. Expenses by Program

Program	Actual 2005	Budget 2005	Actual 2004 Restated(Note 3)	Budget 2004
	(000's)	(000's)	(000's)	(000's)
Research & Technology	$ 16,288	$ 19,602	$ 15,654	$ 16,958
Laboratory Services	9,878	10,861	7,659	8,320
Total	$ 26,166	$ 30,463	$ 23,313	$ 25,278

15. Expenses by Program (Continued)

Administrative services have been allocated to each program based on a percentage of labour. Space costs have been allocated to each program based on the approximate square footage occupied.

16. Commitment

During the year, SRC established a legal trust account in which to invest and hold funds for the eventual decommissioning of the SLOWPOKE reactor. This trust agreement is a condition of the operating license issued to the Council by CNSC. An initial investment of $500,000 was made in 2004. Annual investments of $260,000 are required for each of the next five years.

17. Financial Instruments

The Council's significant financial instruments consist of accounts receivable, accounts payable, other payables, trust investment and the restricted investment.

Credit Risk:

The Council is exposed to credit risk from the potential default of customers. However, the majority of the Council's receivables are from related parties, other government agencies and reputable, longstanding corporate clients. Therefore the credit risk is minimal.

Fair Values:

The fair values of the accounts receivable, accounts payable and other payables approximate their carrying value due to the short-term nature of these instruments. The fair value of the restricted investment is considered to be market value, the calculation of which is detailed in Note 2.

18. Comparative Figures

Certain of the 2004 financial statement balances have been reclassified to conform with presentation of the 2005 figures.

At SRC we value Integrity, Teamwork, Performance Excellence, and Learning.

Integrity

- We treat people with respect, fairness, honesty, patience, understanding and trust.
- We are an equal opportunity employer and respect diversity.
- We are a responsible corporate citizen committed to the health and safety of people and the environment.
- We practice high ethical and professional standards.

Teamwork

- We are committed to achieving common goals through teamwork.
- We collaborate, listen and share information within SRC and with our partners.
- We consistently present a total corporate image.
- We participate actively within our networks to the benefit of clients, colleagues and the community.

Performance Excellence

- We are a financially responsible organization.
- We lead by example. We are accountable for our actions, successes and failures.
- We establish and communicate clear expectations to staff, clients and partners.
- We recognize the accomplishments of our colleagues and of the organization as a whole.
- We actively seek new clients, and strive to retain existing clients.
- We demonstrate our commitment to clients by keeping lines of communication open, providing quality products and services and delivering on time and within budget.

Learning

- We facilitate and acknowledge personal and professional growth.
- We strive to achieve excellence through innovation and continuous improvement.
- We develop or acquire appropriate knowledge as needed to achieve the best solutions for our clients and partners.
- We learn from our successes and our failures.

At SRC we value Integrity, Teamwork, Performance Excellence, and Learning

Integrity

- We treat people with respect, fairness, honesty, patience, understanding and trust.
- We are an equal opportunity employer and respect diversity.
- We are a responsible corporate citizen committed to the health and safety of people and the environment.
- We practice high ethical and professional standards.

Teamwork

- We are committed to achieving common goals through teamwork.
- We collaborate, listen and share information within SRC and with our partners.
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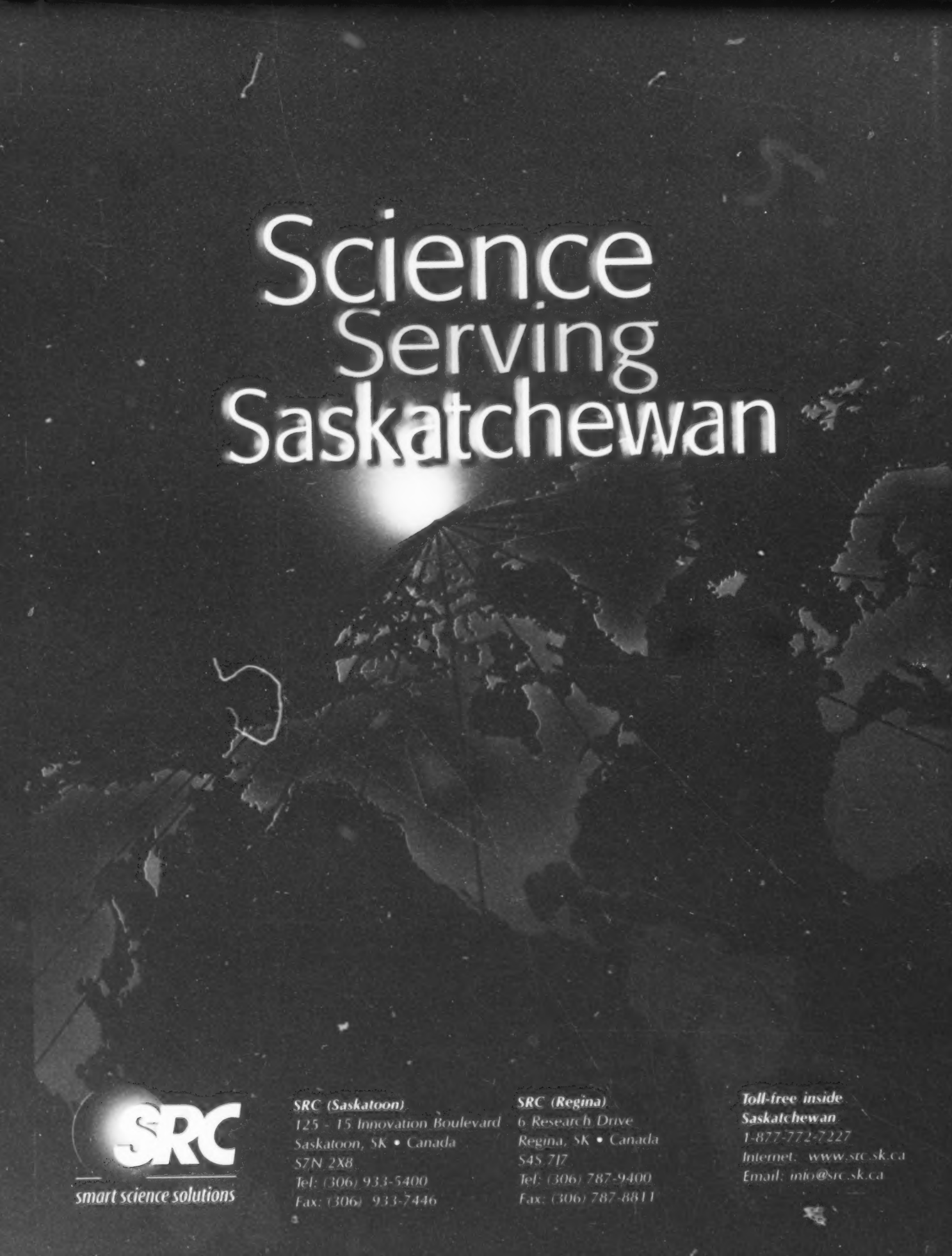

SRC
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Saskatchewan Research Council

2004-2005 Annual Report

Supplementary Information

(unaudited)

Details of Revenue and Expense

Saskatchewan Research Council (Vote 35)

Mission Statement

The Saskatchewan Research Council's (SRC) mission is to help the people of Saskatchewan strengthen the economy with quality jobs and a secure environment. We do it through research, development, and the transfer of innovative scientific and technological solutions, applications and services.

SRC creates wealth through the responsible application of science and technology to assist Saskatchewan industry to be globally competitive.

Year ended March 31	2005
Transfers	
All expenses paid from this vote were transfers to the Saskatchewan Research Council.	

Saskatchewan Research Council
(Vote 35)

This program provides funding for the Saskatchewan Research Council:

(Thousands of dollars)		$000s
Revenue:		
Contracts		$ 19,363
Grants - General Revenue Fund		7,865
Grants - Agri-Food Innovation Fund		399
Interest revenue		98
Change in restricted investment		74
		27,799
Expense:		
Personal services	12,873	
Travel	739	
Transfers	0	
Contract services	662	
Communications	169	
Supplies and services	5,265	
Amortization of equipment and other assets	1,614	
Amortization of Agri-Food Innovation Fund assets	399	
Accommodation charges	4,445	26,166
Net income from operations		1,633
Defined benefit pension plan revenue		15
Net income		1,648
Retained earnings - unappropriated, beginning of year		3,649
Change in appropriated amount during year		(74)
Retained earnings - unappropriated, end of year		$ 5,223

Details of expenses

Personal Services

Unaudited list of individuals who received payments for salaries, wages, honorariums, and compensation for personal service.

	$000s
Annesley, I	78
Arnold, T	108
Begrand, R	63
Beisel, J	77
Brown, G	107
Chorney, C	64
Chrusch, L	63
Dick, R	68
Dumont, R	92
Evans, V	54
Exelby, R	62
Freitag, N	86
Gartner, B	70
Gerwing, V	52
Gillies, R	98
Godwin, B	54
Grier, D	111
Hill, S	80
Holsten, A	85
Huang, S	99
Hutchence, K	81
Jackson, A	58
Jackson, C	60
Jahren, R	57
Jaworski, E	55
Johnston, M	87
Jones, J	63
Judd-Henrey, I	76
Ketteret, T	68
Knorr, K	76
Kristoff, B	96
Kurucz, L	59
Lang, K	55
Litzenberger, C	59
Lung, B	67
Lychak, J	57
Maathuis, H	94
Makohon, J	69
McKibben, M	58
McVicar, G	107
Melville, G	78
Mircea, C	53
Misko, A	53
Moody, M	56
Moser, P	57
Murray, C	97
Nicolichuk, N	56
Nyirfa, W	90
Owens, K	110
Pappas, E	114

	$000s
Perron, G	57
Plante, Y	86
Quirt, D	65
Ranganathan, R	114
Robinson, J	72
Rollins, M	86
Sayegh, S	98
Schergevitch, P	59
Schramm, L	179
Sherwood, P	52
Shewchuk, S	94
Shi, R	50
Simpson, M	66
Smith, B	54
Smudy, C	136
Snodgrass, L	57
Snook, V	52
Soveran, D	97
Stanek, B	78
Sulatisky, M	100
Sun, R	60
Thorpe, J	83
Tremblay, M	86
Wallace, K	88
Weekes, M	116
Wheaton, E	85
White, T	62
Wittrock, V	69
Young, K	93
Yuen, W	96
Zhang, P	64
Zimmer, J	62
Zlipko, D	54
Bowa Can Adjustment	(181)
Under $50,000	5,000
Payroll and pension plan remittances	1,647
$	12,873

Travel

Unaudited list of amounts for Minister's travel expenditures.

	$000s
Minister's Travel	3
Other	740
Bowa-Can adjustment	(4)
$	739

Transfers

Unaudited list of transfers to individuals, local authorities and other third parties, for which the government does not receive any goods or services directly in return.

	$000s
Nil	$ -

Contract Services

Unaudited list of specialized professional services.

	$000s
Carmelle Sikma	66
Under $50,000	596
	$ 662

Communications

Unaudited list of expenditures related to promotion of programs, and non-promotional such as those related to exhibits, displays, and the printing of educational and informational materials and annual reports.

	$000s
	$ 169

Supplies and Services

Unaudited list of payees for the acquisition of supplies and services used or required to carry out programs.

	$000s
Advanced Data Systems	218
Anachemia Science	173
Applied Biosystems	61
BOC Gases	97
Brandt Custom Machining	146
ClearTech	165
CMG (Computer Modelling Group)	50
Dominion Construction	128
ECCO Heating Products	71
Fisher Scientific	85
Jason Services	56
Marsh Canada	133
Receiver General for Canada	66
Saskatoon Fluid System	62
SaskTel	222
Trigon Exploration	102
Univar Canada	61
University of Regina	79
University of Saskatchewan	94
VWR International	119
Payments on behalf of Procam Alliance Program	
- Western Ag Innovations	205
- Acuitec Systems	95
Bova-Can adjustment	(100)
Under $50,000	2,877
	$ 5,265

Amortization of equipment and Other Assets

Unaudited list of payees for the purchase of equipment and other assets used in the delivery of programs.

	$000s
Dell Computer Corporation	159
Dionex Canada	59
Fakespace Systems	73
Folio Instruments	61
Mandel Scientific	53
Nikon Canada	50
Perkin Elmer Canada	419
Sepor Incorporated	55
TREE	90
Leasehold improvements	
- Saskatchewan Opportunities Corp.	386
- Saskatchewan Property Management Corp.	145
Bova-Can adjustment	(10)
Difference between cash purchases and amortization of capital assets	(978)
Under $50,000	1,052
	$ 1,614

Accommodation charges

Unaudited list of payees for the rental, lease and maintenance of facilities.

	$000s
North Star Innovative Developments	99
Saskatchewan Property Management Corp.	734
Saskatchewan Opportunities Corp.	3,490
Under $50,000	122
	$ 4,445